Application Directory

For Use With the Apex Destiny-6100 Control Panel

Rev. 8.05 or Greater

3510 Spring Forest Road
Raleigh, NC 27616

Technical Support/
Applications Group
1-800-272-7937, Option 1

A/APPSDIR 7/99

Application Directory

- Introduction -

This Application Directory was designed to help our dealers recognize the potential of the powerful Destiny 6100 control panel. Although your customer's safety is our top priority, the Destiny 6100 can do much more than provide superior security and fire protection. We hope this directory will help you take full advantage of the many options and integrated features.

If you have questions about any of the applications or need assistance on your next Apex installation, feel free to call our Technical Support Department and ask to speak with an Applications Specialist. Dial 1-800-272-7937 and press 1.

Please refer to the Product Sources guide at the back of this directory for contact phone numbers and web sites, as well as to identify where equipment used in these applications can be purchased.

Do you have a Destiny 6100 application you'd like to share? If so, let us know about it. You will receive a FREE gift if it is added to the directory.

Thank you!

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Raleigh, NC 27616

Application Directory

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- Application Note -
Security Enhancements

- Smoke Detector Power Supervision -

Objective

Provide supervision for the smoke detector power supply.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- System Sensor Relay, A77-716B
- Four-Wire Smoke Detector

Sequence of Operation

If power is lost to the smoke detector, zone 1 will open and cause the system to show a zone trouble. The system will also begin to beep at the keypad speaker and continue to beep until the status key is pressed.

Four-Wire Smoke Detector

System Sequence of Events

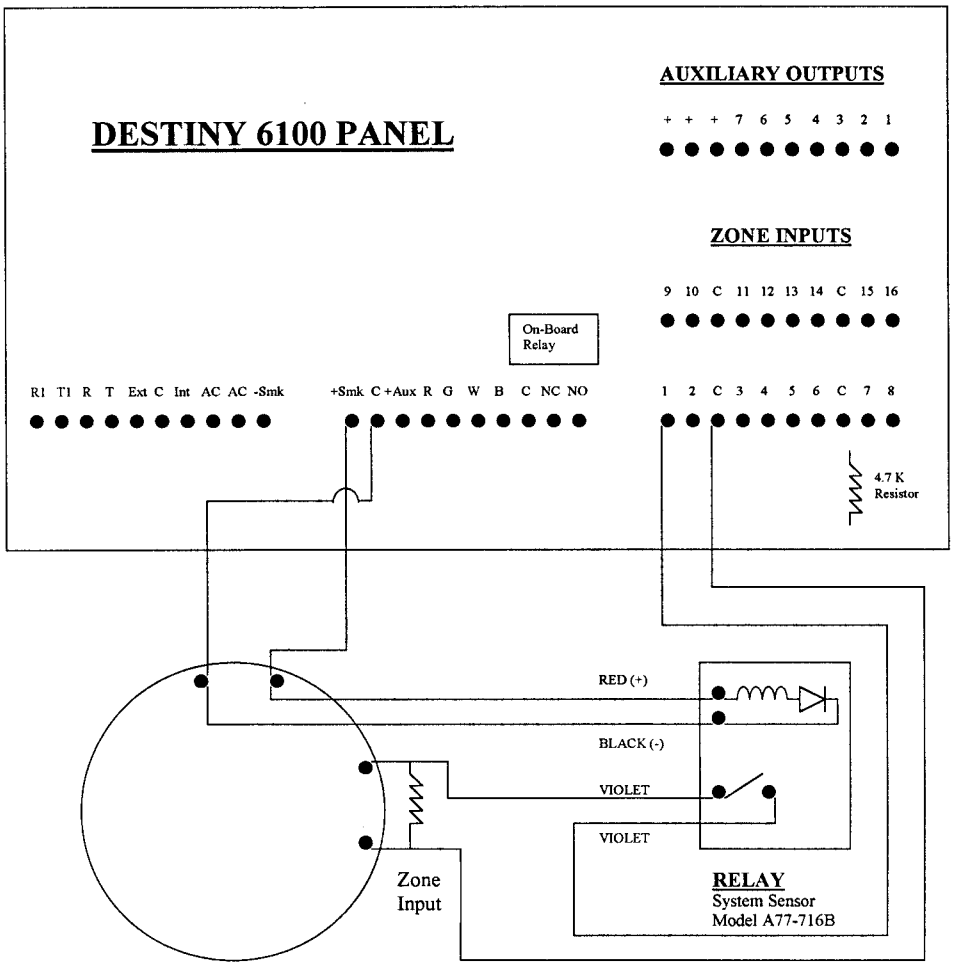
1) When power is interrupted to the smoke detector, power is also interrupted to the smoke supervision relay. This will cause the relay to return to its normally open de-energized state and remove the zone supervision resistor from zone input terminals 1 and C.

2) The system will now show a zone trouble and beep at the keypad speaker until the Status button is pressed.

Required Programming

Location	Value	Function
9940	01	Zone type = 006, Option 1 = 016, Option 2 = 001,
		Hardware input = 000, Input = 01

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
RED (+)
BLACK (-)
VIOLET
VIOLET
Zone Input
RELAY
System Sensor
Model A77-716B

FOUR-WIRE SMOKE DETECTOR

- Application Note -
Security Enhancements

- Four-wire Smoke Detectors with Sounders -

Objective

To activate the sounders on all four-wire smoke detectors after any one smoke detector is tripped.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- System Sensor smoke detectors, 2112/24 AITR
- System Sensor RR1 polarity reversal relay module

This application will use polarity reversal to activate sounders on four-wire smoke detectors.

Sequence of Operation

After a smoke detector is tripped the control panel will energize the polarity reversal relay causing the sounders to activate on all four-wire smoke detectors that are connected to the control panel.

System Sequence of Events

1) A smoke detector trips which activates a fire zone on the control panel.

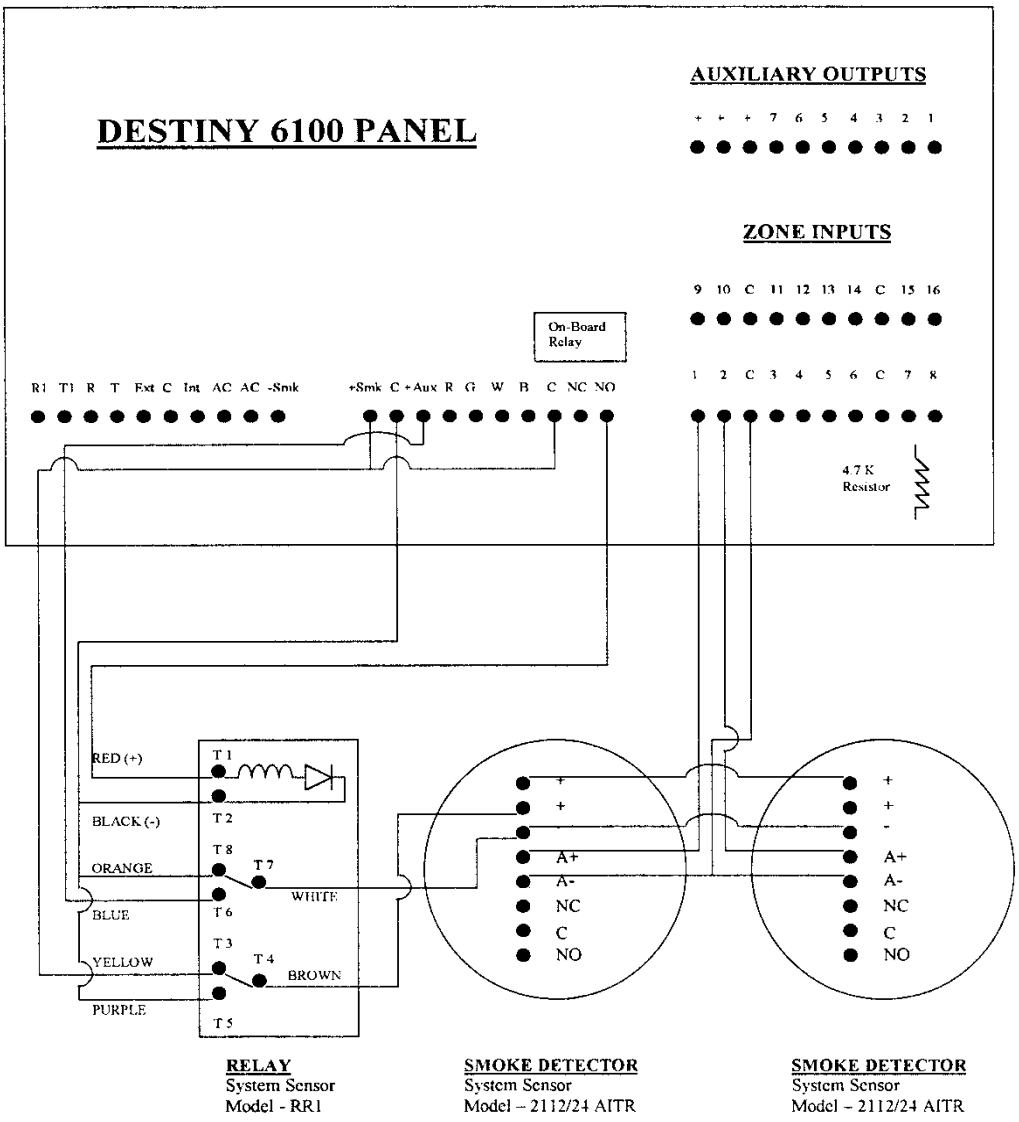
2) The “Fire” auxiliary output trigger is programmed to energize the on-board relay which will in turn energize the polarity reversal relay.

3) When the polarity reversal relay is energized the relay contacts will change position (from normally closed to normally open). This will reverse the supply voltage going to all four-wire smoke detectors which will activate the sounders of each smoke detector.

Required Programming

Location	Value	Function
9940	01	Zone type = 006, Option 1 = 080, Option 2 = 001,
		Hardware input = 000, Input = 01
9940	02	Zone type = 006, Option 1 = 080, Option 2 = 001,
		Hardware input = 000, Input = 02
4097	001	Enable control channel 1
4119	008	Assign control channel 1 to the on-board relay
0185	001	Assign the "fire" trigger to control channel 1

Application Diagram



- Application Note -
Security Enhancements

- Siren / Strobe Relay Output -

Objective

Provide a relay output to power a siren / strobe upon any alarm activation.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Siren or Strobe of your choice (must be hardwired)

Sequence of Operation

Upon any alarm activation, the panel will provide power to a strobe or siren.

System Sequence of Events

1) Any alarm activation occurs.

2) This event will trigger Control Channel 1.

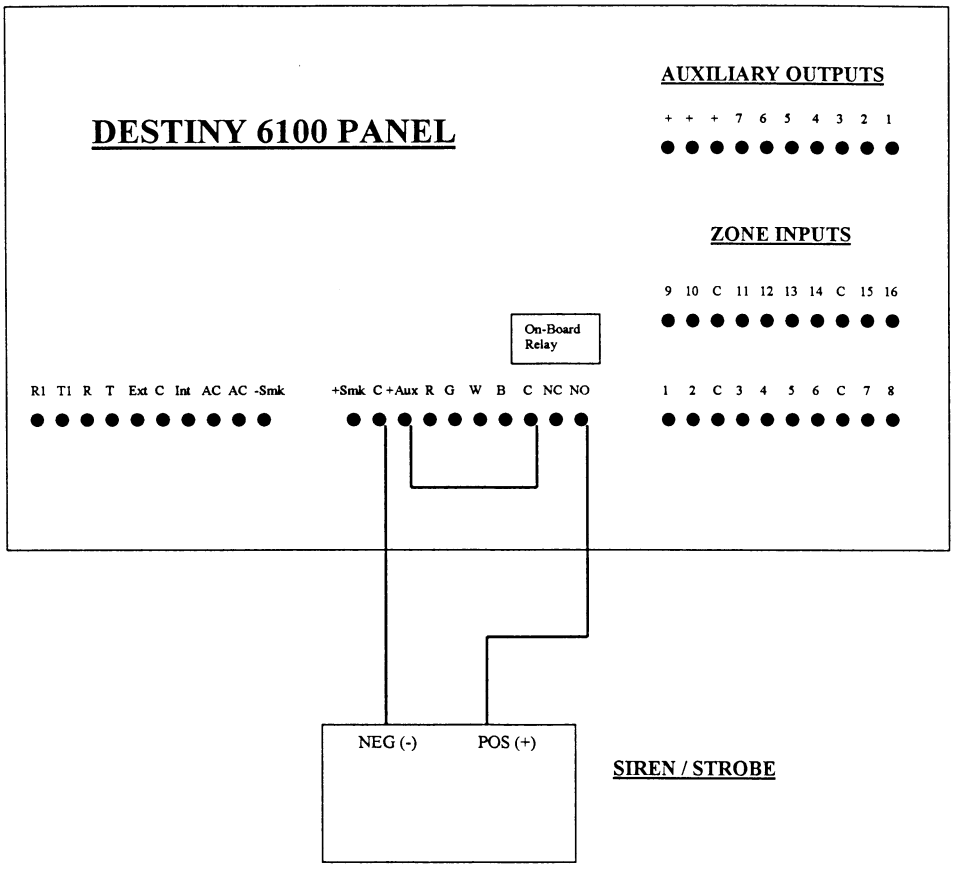
3) Control Channel 1 will close the on-board relay (Auxiliary Output 8). This will supply power to the strobe or siren.

4) The relay will return to its normally open state when the system is disarmed or the alarm cut-off time expires.

Required Programming

Location	Value	Function
4097	001	Enable control channel 1
4119	008	Auxiliary output 8
0183	001	Any alarm activation trigger

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
NEG (-)
POS (+)
SIREN / STROBE

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- Application Note -
Security Enhancements

- Simultaneous Trip -

Objective

Requires that two (or more) zones have an open condition before an annunciation/ activation will occur.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater

This application can be used in False Alarm Prevention. Sometimes referred to as Cross Zoning.

Sequence of Operation

The designated two zones must have an open condition before an annunciation / activation will occur.

System Sequence of Events

1) A zone will be programmed into the system (with speech, beeps, and show status suppresssed) and linked to a Control Channel. This Control Channel will point to one of the seven pull-to-ground auxiliary pins on the board. Whenever the zone is opened, this pin will pull to ground.

2) A second zone will be programmed into the system (again, with speech, beeps, and show status suppressed) and linked to another Control Channel. This second Control Channel will point to the on-board relay. Whenever the second zone is open, the relay will close.

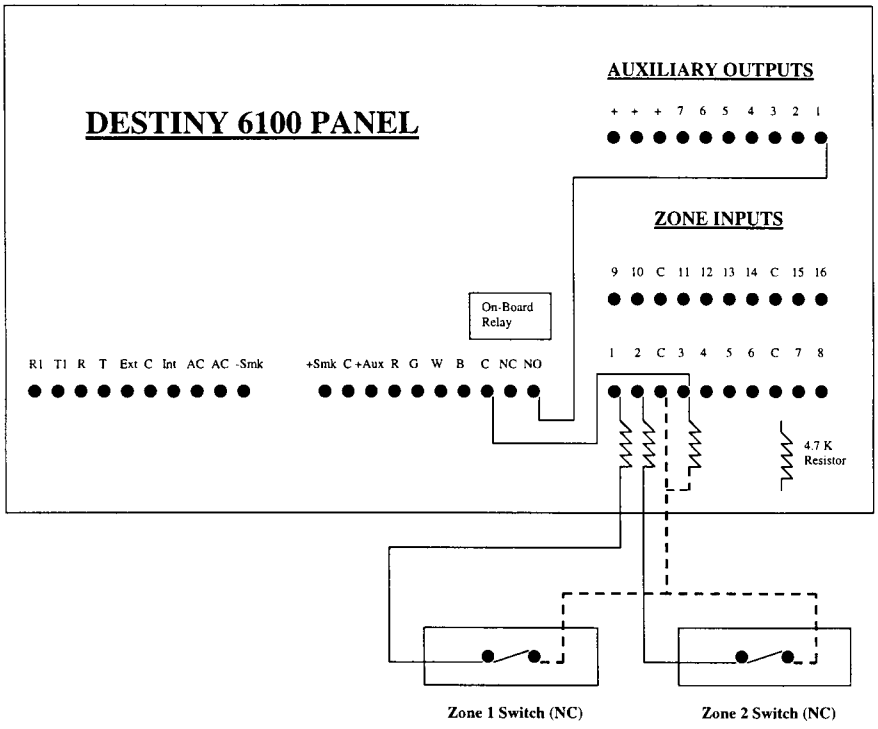
3) The wire from the pull to ground pin will then be wired through the on-board relay to a third zone which will be programmed to speak, go into alarm, etc.

Note: Both of the first two zones must be active (open) within 30 seconds of each other (programmable) in order for the third zone to be tripped and cause an activation. Either of the first two zones tripped by itself will not cause an alarm activation.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware Device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware Device = 000, Input = 02
9940	03	Zone type = 000, Option 1 = 080, Option 2 = 001,
		Hardware Device = 000, Input = 03
0902	001	Link zone 1 to control channel 1
0901	001	Set options for a zone 1 "open" to send an ON command
		to control channel 1
0917	002	Link zone 2 to control channel 2
0918	001	Set options for a zone 2 "open" to send an ON command
		to control channel 2
4097	011	Enable control channel 1 with auto-countdown in seconds
4101	030	Set control channel 1 countdown to 30 seconds
4119	001	Assign control channel 1 to pull-to-ground pin 1
4121	011	Enable control channel 2 with auto-countdown in seconds
4125	030	Set control channel 2 countdown to 30 seconds
4143	008	Assign control channel 2 to the on-board relay

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Zone 1 Switch (NC)
Zone 2 Switch (NC)

- Application Note -
Security Enhancements

- Sunrise / Sunset Lighting -
Sure Action Photo Cell, 12 volt

Objective

Use a 12 volt photocell to turn on flood lights at sunset and provide lighted pre-alarm entry after sunset.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01 (qty 2)
- Sure Action 12VDC Photo Cell, SU-ON/OFF

Sequence of Operation

At sunset each day, the system will turn on the flood lights and automatically turn them off after a specified time period. When pre-alarm is activated the system will turn on the hall lights to provide lighted entry only if it is dark outside.

System Sequence of Events

1) At sunset the photocell will provide a short circuit to activate Zone 16 and signal the system that it is dark. At sunrise the photocell will remove the short circuit to restore Zone 16 and signal the system that it is light.

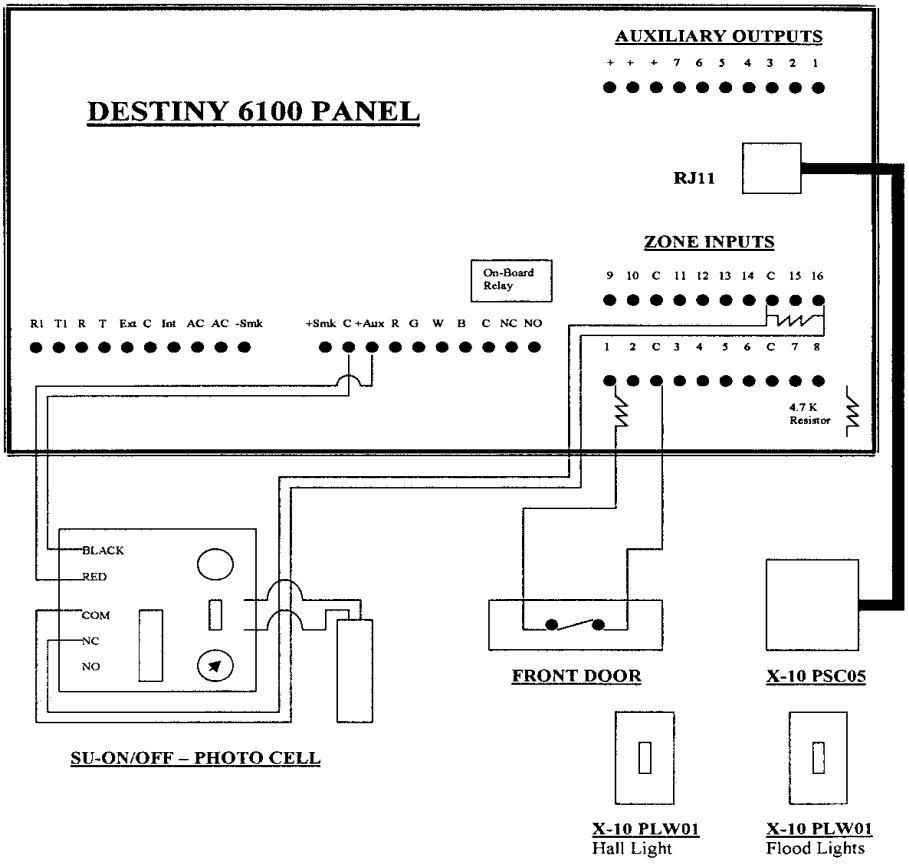
2) At sunset the system sends an “ON” command to Control Channel 33 which sends an “A1 ON” X-10 command to turn on the flood lights. Control Channel 33 will send an “A1 OFF” X-10 command to turn off the flood lights after the programmed countdown time.

3) Entering the front door with the system armed to Away or Home will cause the system to activate the pre-alarm countdown. If it is dark the system will also send an “ON” command to Control Channel 34. Control Channel 34 will send an “A2 ON” X-10 command to turn on the hall lights. The hall lights will remain on until manually turned off.

Required Programming

Location	Value	Function
4865	009	Enable control channel 33 with automatic turn-off
4867	128	Turn channel on when dark(sunset)
4869	120	On units(minutes)
4886	096	X-10 output signal = A1
4889	001	Enable control channel 34
4892	008	Disable channel when light(sunrise)
4910	097	X-10 output signal = A2
0189	034	Pre-alarm trigger channel
4059	002	Pre-alarm trigger option(activation = on, restore = none)
9940	01	Zone type = 001, Option 1 = 080, Option 2 = 001,
		Hardware device = 000, Input = 01
9940	16	Zone type = 016, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 16
9920	001	077(Front), 060(Door)

Application Diagram



- Application Note -
Security Enhancements

- External Alarm Delay -

Objective

For any alarm, provide a delay period before the external alarm speaker is active.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- External Speaker (8 ohm - 10 watt minimum)

This application allows the end user a period of time to disarm the control after any activation before the alarm speaker disturbs neighbors.

Sequence of Operation

For any alarm activation the external speaker will be disabled for a programmed time period before sounding an alarm. The internal speaker alarm will remain instant.

System Sequence of Events

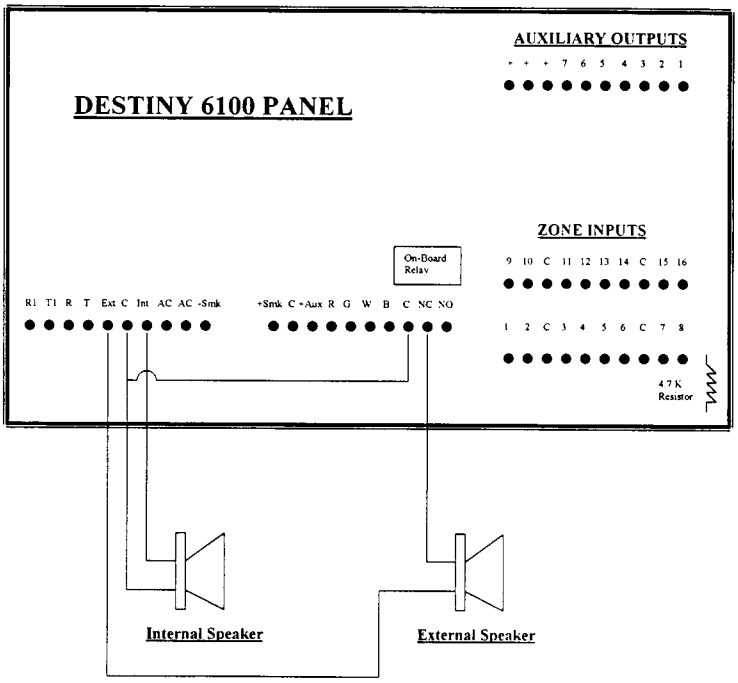
1) Upon any alarm activation the system will send an “ON” command to Control Channel 1 energizing the on-board relay for a programmable time period. The common wire for the external speaker will be interrupted disabling the speaker.

2) After the programmed time period the system will send an “OFF” command to Control Channel 1 de-energizing the on-board relay. The common wire for the external speaker will be restored enabling the speaker and allowing the alarm to be annunciated.

Required Programming

Location	Value	Function
4097	011	Enable control channel 1 with automatic turn-off
4101	030	On units - seconds (programmable)
4119	008	Auxiliary output 8 (on-board relay)
0183	001	System trigger - any alarm activation
4053	002	System trigger option (activation = ON)

Application Diagram



- Application Note -
Security Enhancements

- Transfer to Secondary Phone Line -

Objective

Transfer to a secondary phone line upon the loss of the primary phone line.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- System Sensor, RR1 Relay (DPDT)

Sequence of Operation

The control panel will automatically switch to the secondary phone line upon loss of the primary line.

System Sequence of Events

1) Upon loss of the primary phone line, the panel will energize the on-board relay which will in turn energize the double pole double throw (DPDT) System Sensor RR1 relay.

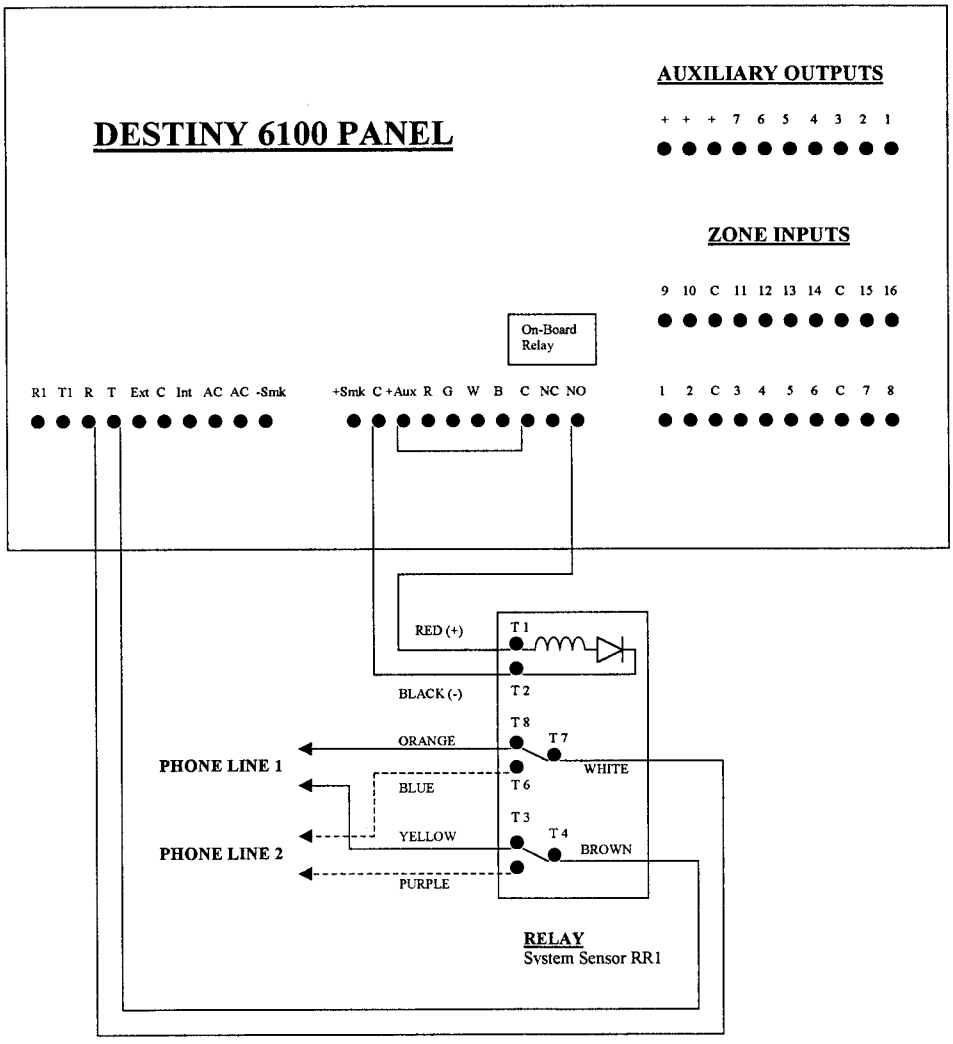
2) This DPDT relay will now connect the secondary phone line to the panel. After four (4) hours (programmable) the on-board relay will de-energize causing the DPDT relay to reconnect the primary phone line to the panel.

3) If the primary phone line is still not active, then the above sequence will continue until the primary phone line is restored.

Required Programming

Program Location	Value	Function
4865	009	Enable channel 33 with automatic turn off
4101	240	On units; 240 minutes
4119	008	Control on board relay
0199	033	Activate channel 33 for loss of phone line trigger
4069	002	Activation action "ON" for channel 33

Application Diagram



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- Application Note -
Home Control

- Intruder Audible and Visual Warning -

Objective

Provide an audible and a visual warning to an intruder approaching the perimeter of a protected area.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01
- X-10 PRO External Motion Detector, PHS01
  (Settings: House code=M, Start Code=5, Time Delay=.1, Sensor "+1" Switch=IN, Dusk "+5" Switch=IN)

Sequence of Operation

When perimeter motion is detected the system will speak "Warning Protected Area, Leave Immediately" and turn on flood lights. The audible warning message will only be spoken when motion is detected while the system is armed to Away but the flood lights will turn on whenever motion is detected regardless of the arming mode if it is dark outside. The flood lights will turn off after a programmed time period.

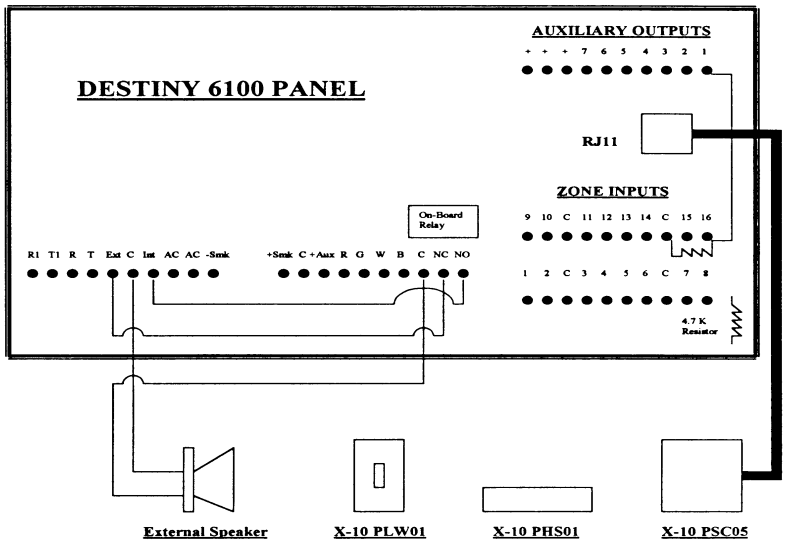
System Sequence of Events

1) When motion is detected PHSO1 transmits X-10 input signal 1 "M6 ON" (Also transmits X-10 input signal 2 "M10 ON" at sunset and "M10 OFF" at sunrise for Control Channel filters).
2) "M6 ON" X-10 signal activates Output Control assignment 1.
3) Output Control assignment 1 activates Control Channel 33(chain channel 1) and suppresses speech.
4) Chain Channel Group 1 activates Control Channels 34, 35, 36.
5) Control Channel 34 activates Auxiliary Output pin 1 for two seconds if the system is armed to Away applying a ground signal to Zone 16 input.
6) Control Channel 35 activates Auxiliary Output 8(on-board relay) for three seconds if the system is armed to Away switching the external speaker to the internal speaker terminals.
7) Control Channel 36 transmits X-10 output signal "H1 ON" turning on the flood lights for 5 minutes.
8) Zone 16 activates and speaks "Warning Protected Area Leave Immediately" through external speaker.

Required Programming

Location	Value	Function
4865	001	Enable control channel 33
4867	001	Activate chain channel
4886	001	Chain channel 1
4889	011	Enable control channel 34 with automatic turn-off
4892	160	Filter - disable when disarmed and also when armed to home or night
4893	002	On units (seconds)
4911	001	Auxiliary output 1
4913	011	Enable control channel 35 with automatic turn-off
4916	160	Filter - disable when disarmed and also when armed to home or night
4917	003	On units (seconds)
4935	008	Auxiliary output 8
4937	013	Enable control channel 36 with automatic turn-off and timer restart
4940	008	Filter - disable when light(sunrise)
4941	005	On units (minutes)
4958	176	X-10 output signal = H1
5441	034	Channel activation 1, chain channel 1
5442	035	Channel activation 2, chain channel 1
5443	036	Channel activation 3, chain channel 1
5570	005	X-10 input 1 signal = M6
5572	024	On function = output control assignment 1
5576	009	X-10 input 2 signal = M10
5578	022	On function = sunset
5579	021	Off function = sunrise
4021	033	Output control assignment 1 = channel 33
4022	005	Output control assignment 1 options = turn channel on and suppress speech
9940	16	Zone type = 011, Option 1 = 064, Option 2 = 033, Hardware device = 000, Input = 16
9940	17	Zone type = 015, Option 1 = 000, Option 2 = 001, Hardware device = 020, Input = 1
9940	18	Zone type = 015, Option 1 = 000, Option 2 = 001, Hardware device = 020, Input = 2
9920	016	371(Warning), 358(Protected), 029(Area), 096(Leave Immediately)

Application Diagram



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- Application Note -
Home Control

- *Universal Remote* (X-10 PRO PUR08) -
- *Remote Arming / Light Control* -

Objective

Arm to Home mode and turn on a light with the X-10 PRO Universal Remote Control (PUR08).

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01
- X-10 PRO Transceiver / Appliance Module, PAT01
- X-10 PRO Universal Remote Control, PUR08

The PUR08 Universal Remote provides convenience in arming the control, turning on/off the TV/VCR and controlling lights, all from one hand-held remote.

Sequence of Operation

Pressing the X-10 button on the PUR08 followed by a 01 and the channel (+) button will arm the system to Home and turn on an X-10 controlled light. Pressing the X-10 button on the PUR08 followed by 02 and the channel (+) button will only turn on the X-10 controlled light. Pressing the channel (-) button will turn the light off.

System Sequence of Events

1) When the PUR08 X-10 button is pressed folllowed by 01 and the channel (+) button it transmits X-10 input signal 1 “A1 ON” which causes the system to arm to Home and also causes the system to send an “ON” command to Control Channel 1.

2) Control Channel 1 transmits X-10 output signal “A2 ON” that turns on the X-10 light.

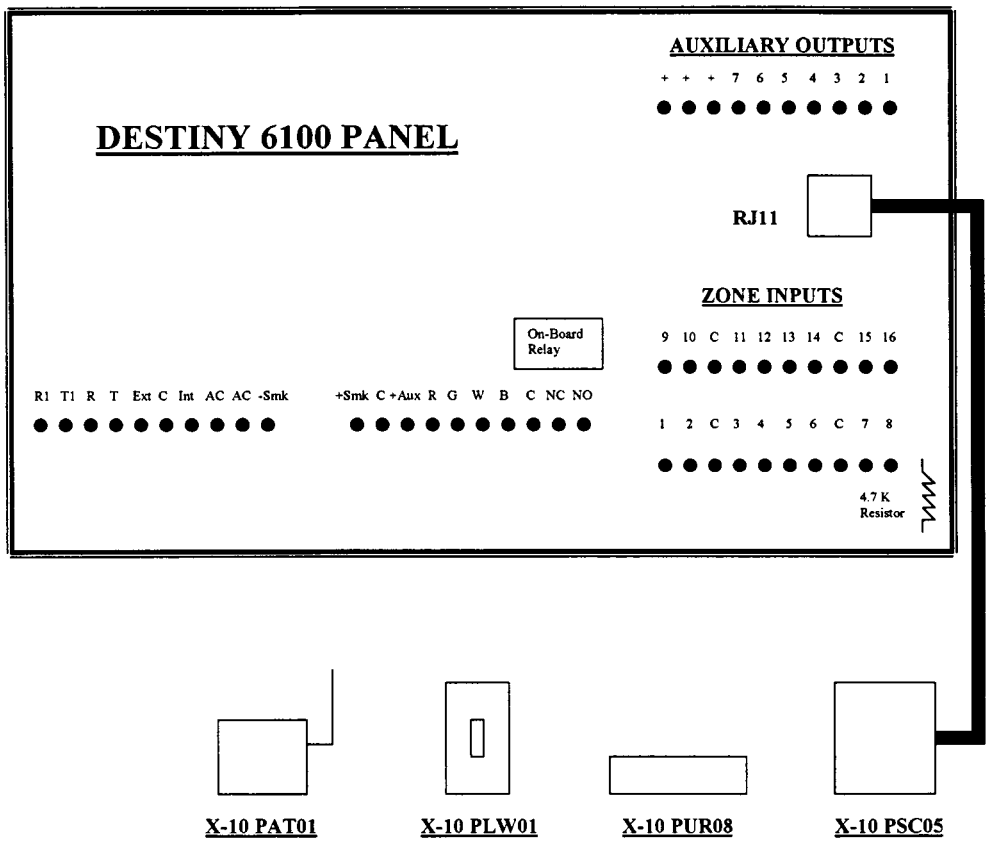
3) When the PUR08 X-10 button is pressed followed by 02 and the channel (+) button it transmits X-10 output signal “A2 ON” which turns on the X-10 light.

4) Pressing the channel (-) button transmits X-10 output signal “A2 OFF” that turns the light off.

Required Programming

Location	Value	Function
9940	01	Zone type = 015, Option 1 = 000, Option 2 = 001,
		Hardware device = 020, Input = 1
5570	096	X-10 input house code / unit assignment (A1)
5572	019	X-10 input “ON” button function assignment – Arm to Home
4097	001	Enable control channel 1
4118	097	X-10 output signal “A2”
0193	001	System trigger – Arm to Home

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
X-10 PAT01
X-10 PLW01
X-10 PUR08
X-10 PSC05

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- Application Note - Home Control

- Visual Confirmation of Arm/Disarm - - Garage Door Open/Close and Open with Lighted Entry -

Objective

Provide remote arming/disarming with visual confirmation and provide remote garage door opening with automatic lighted entry.

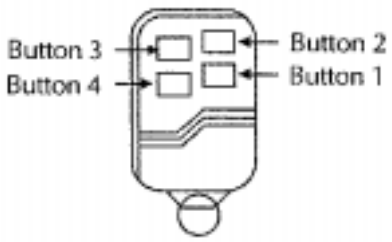
Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex Wireless Receiver/Bridge, WL500-M
- Ademco Wireless Key Transmitter, 5804
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Universal Module, PUM01
- X-10 PRO Incandescent Wall Switch Module, PLW01 (qty 3)
- X-10 PRO Lamp Module, PLM01

Sequence of Operation

The system is armed to Away by pressing button 3 and disarmed by pressing button 2 on the 5804 wireless key transmitter. Both arming and disarming will cause the garage floodlight to turn on and off for visual confirmation. Pressing button 1 will open the garage door, turn on the garage overhead light and the entry hall light for five minutes, and turn on the living room lamp and have it dim to a preset level. Pressing button 4 will either open or close the garage door depending on its present state.

5804



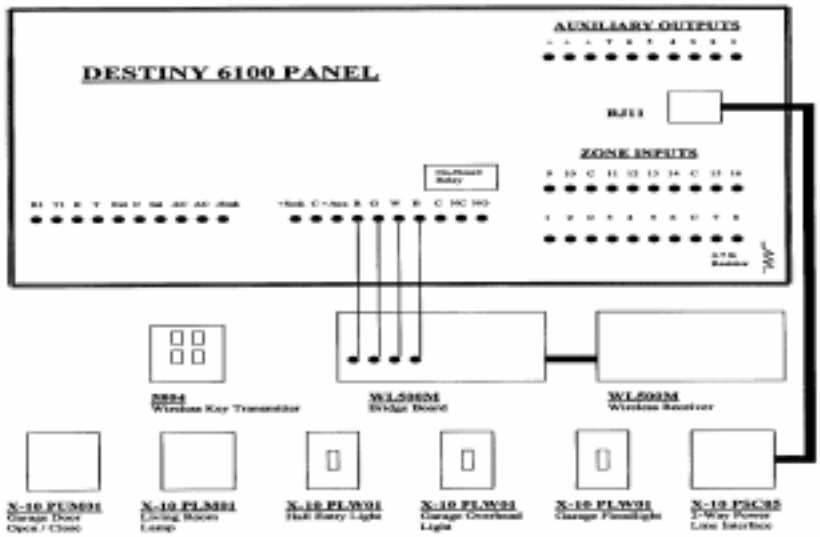
System Sequence of Events

1) Arming the system to Away by pressing button 3 or disarming the system by pressing button 2 on the 5804 wireless transmitter activates Control Channel 38 for two seconds turning the garage floodlight on and off.
2) Pressing button 1 activates Output Control assignment 1.
3) Output Control assignment 1 activates Control Channel 33 (Chain Channel 1) and suppresses speech.
4) Chain Channel Group 1 activates Control Channels 34, 35, 36, and 37.
5) Control Channel 34 transmits X-10 output signal “A1 ON” activating the X-10 universal module and after two seconds transmits “A1 OFF” restoring the module. This momentary signal will open the garage door. *Note: Only press button 1 to open the garage door and start the lighting sequence described below. If the door is already open then it will be closed and the lighting sequence described below will begin.*
6) Control Channel 35 transmits X-10 output signal “A2 ON” turning on the garage overhead light. After five minutes it will transmit “A2 OFF” turning off the garage overhead light.
7) Control Channel 36 transmits X-10 output signal “A3 ON” turning on the hall entry light. After five minutes it will transmit “A3 OFF” turning off the hall entry light.
8) Control Channel 37 transmits X-10 output signal “A4 ON” turning on the living room lamp and then dims the lamp to level 3.
9) Pressing button 4 will activate Output Control assignment 2.
10) Output Control assignment 2 activates Control Channel 34 and suppresses speech. This opens or closes the garage door as described in step 5 above.

Required Programming

Location	Value	Function
4865	001	Enable control channel 33
4867	001	Activate chain channel
4886	001	Chain channel 1
4889	011	Enable control channel 34 with automatic turn-off
4893	002	On units (seconds)
4910	096	X-10 output signal = A1
4913	009	Enable control channel 35 with automatic turn-off
4917	005	On units (minutes)
4934	097	X-10 output signal = A2
4937	009	Enable control channel 36 with automatic turn-off
4941	005	On units (minutes)
4958	098	X-10 output signal = A3
4961	017	Enable control channel 37 with dimming from remote control
4964	002	Enable preset dimming
4982	099	X-10 output signal = A4
4984	003	Preset dimming level = 3
4985	011	Enable control channel 38 with automatic turn-off
4989	002	On units (seconds)
5006	100	X-10 output signal = A5
5441	034	Channel activation 1, chain channel 1
5442	035	Channel activation 2, chain channel 1
5443	036	Channel activation 3, chain channel 1
5444	037	Channel activation 4, chain channel 1
4021	033	Output control assignment 1 = channel 33
4022	005	Output control assignment 1 options = turn channel on, suppress speech
4023	034	Output control assignment 2 = channel 34
4024	005	Output control assignment 2 options = turn channel on, suppress speech
0194	038	System trigger, arm to away, channel 38
4064	002	System trigger option, activate=on
0196	038	System trigger, disarm, channel 38
4066	002	System trigger option, activate=on
9940	90	Zone type = 015, Option 1 = 000, Option 2 = 001, Hardware device = 010, Enter serial number, Button function 1 = 024, Button function 2 = 020, Button function 3 = 018, Button function 4 = 025, User = 1

Application Diagram



Visual Confirmation of Arm/Disarm Garage Door Open/Close and Open with Lighted Entry

apex-10 Professional

- Application Note -
Home Control

- Motion Activated Light After Sunset -

Objective

Provide lighting when motion is detected after sunset.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Hardwire Motion Detector
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01
- X-10 PRO Sundowner Mini Controller, PHC03

Sequence of Operation

When motion is detected after sunset, the system will turn on a light and turn it off after a programmed countdown time. If motion is detected again within the countdown time then the light will remain on and the countdown will restart.

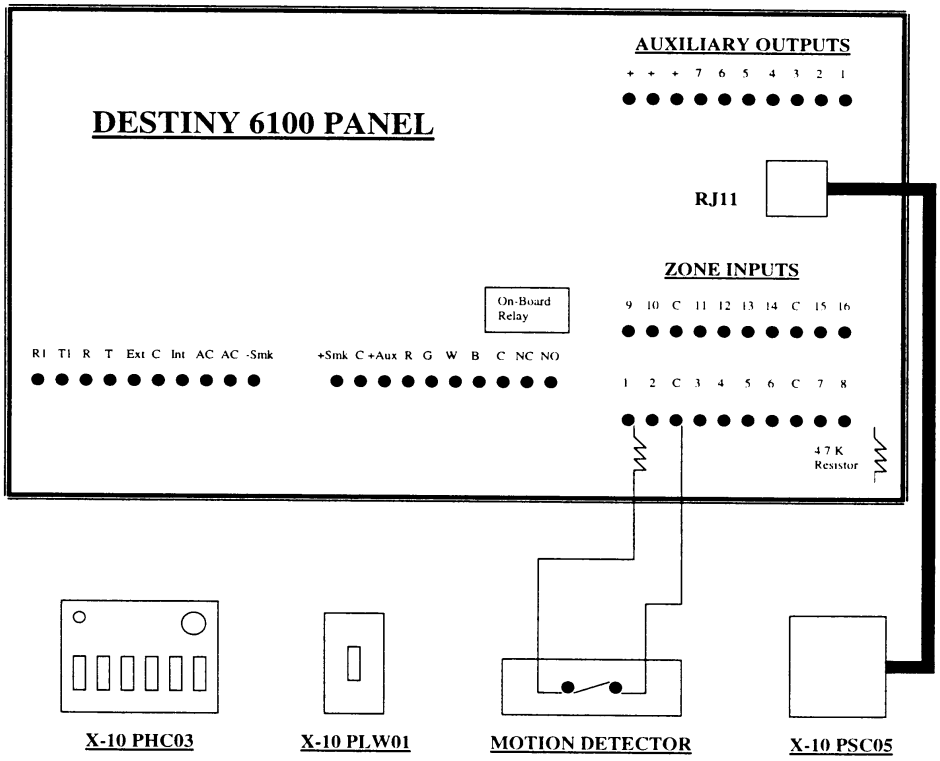
System Sequence of Events

1) When motion is detected Zone 1 will be activated and the system will speak “Motion Detected”.
2) At sunset the X-10 Sundowner Mini Controller will send the X-10 output signal “A4 ON” which will enable Control Channel 33. At sunrise the X-10 output signal “A4 OFF” will be sent disabling Control Channel 33.
3) The X-10 light (Control Channel 33) is linked to Zone 1 and if it is sunset will turn on whenever Zone 1 is activated and remain on until the programmed countdown time has expired. If Zone 1 is activated again within the countdown time the light will remain on and the countdown will restart.
4) At sunrise Control Channel 34 will send the X-10 output signal “A1 OFF”. This will ensure that the X-10 light turns off because if the light is turned on and the countdown time has not expired at sunrise then the light would remain on. Control Channel 33 is disabled at sunrise and will not send the “A1 OFF” signal to turn off the light after the countdown time has expired.

Required Programming

Location	Value	Function
4865	013	Enable control channel 33 with automatic turn-off and countdown restart
4868	008	Disable channel when light(sunrise)
4869	005	On units (minutes)
4886	096	X-10 output signal = “A1”
4889	001	Enable control channel 34
4891	016	Turn channel 34 off when light(sunrise)
4910	096	X-10 output signal = “A1”
0901	001	Zone – control channel link option (open = on)
0902	033	Zone – control channel link channel (zone 1, channel 33)
5570	099	X10 sunset / sunrise output signal = “A4”
5572	022	X-10 “A4 ON” signal = sunset
5573	021	X-10 “A4 OFF” signal = sunrise
9940	01	Zone type = 000, Option 1 = 080, Option 2 = 033, Hardware device = 000, Input = 01
9940	02	Zone type = 015, Option 1 = 000, Option 2 = 001, Hardware device = 020, Input = 1
9920	001	109(Motion), 056(Detected)

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
X-10 PHC03
X-10 PLW01
MOTION DETECTOR
X-10 PSC05

apex-10 Professional

- Application Note -
Home Control

- Motion Activated Light During Specified Time -

Objective

Provide lighting when motion is detected during a specified time period.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Hardwire Motion Detector
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01

Sequence of Operation

When motion is detected during a specific time of day period the system will turn on a light and turn it off after a programmed countdown time. If motion is detected again within the timed turn-off period then the light will remain on and the countdown will restart.

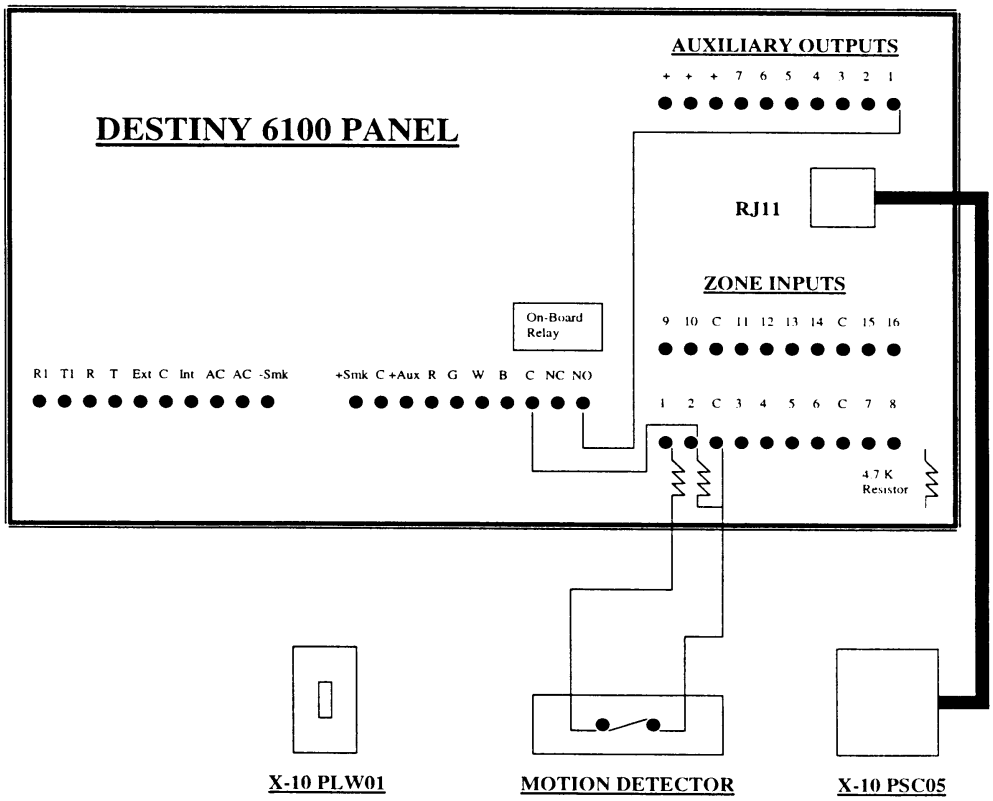
System Sequence of Events

1) When motion is detected Zone 1 will be activated and the system will speak “Motion Detected”.
2) Auxiliary Output pin 1(control channel 34) is linked to Zone 1 and will provide a ground signal to the normally open contact of the on-board relay (Auxiliary Output 8, Control Channel 33) whenever Zone 1 is activated.
3) The on-board relay will energize every day during a specified time period and this will allow the ground signal from Auxiliary Output pin 1 to activate Zone 2.
4) The X-10 light (Control Channel 35) is linked to Zone 2 and will turn on whenever Zone 2 is activated and remain on until the programmed countdown time is over. If Zone 2 is activated again within the countdown time the light will remain on and the countdown will restart.

Required Programming

Location	Value	Function
4865	097	Enable control channel 33 with off and on time-of-day schedule
4866	127	Enable days of week operation (7 days selected)
4887	008	Auxiliary output 8
9992	33	On time = 2100(9 PM), off time = 0700(7 AM)
4889	001	Enable control channel 34
4911	001	Auxiliary output 1
4913	013	Enable control channel 35 with automatic turn-off and countdown restart
4917	005	On units (minutes)
4934	096	X-10 output signal = A1
0901	009	Zone – control channel link option (open = on, closed = off)
0902	034	Zone – control channel link channel (zone 1, channel 34)
0917	001	Zone – control channel link option (open = on)
0918	035	Zone – control channel link channel (zone 2, channel 35)
9940	01	Zone type = 000, Option 1 = 080, Option 2 = 033, Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 000, Option 2 = 001, Hardware device = 000, Input = 02
9920	001	109(Motion), 056(Detected)

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
X-10 PLW01
MOTION DETECTOR
X-10 PSC05

- Application Note -
Energy Management

- HVAC Temperature Control - Enerzone Thermostat -

Home/Away Temperature Setpoints

Objective

Provide temperature control with independent heating and cooling setpoints selected automatically for the Home and Away arming modes.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex Temperature Sensor, TS16
- Enerzone Thermostat
  AC, Gas/Electric: E3 300x1 1 heat/1cool
  Heat Pump: E3 450x1 2 heat/1cool

Sequence of Operation

When the system is disarmed or armed to Home the temperature is maintained by the Enerzone thermostat at the Day heating/cooling setpoints. When armed to Away the temperature is maintained by the Enerzone thermostat at the Night mode heating/cooling setpoints. All setpoints can be changed at the thermostat. The TS16 temperature sensor allows the system to speak temperature to the inside speakers and local/remote phone. It can also be programmed for high and low alarm setpoints.

System Sequence of Events

1) Arming the system to Away sends an “ON” command to Control Channel 1 energizing the on-board relay and interrupting the connection between the thermostat’s CLK1 and CLK2 terminals.

2) After one second, the system sends an “OFF” command to channel 1 to restore the connection between CLK1 and CLK2 and place the thermostat in the Night(Away) mode.

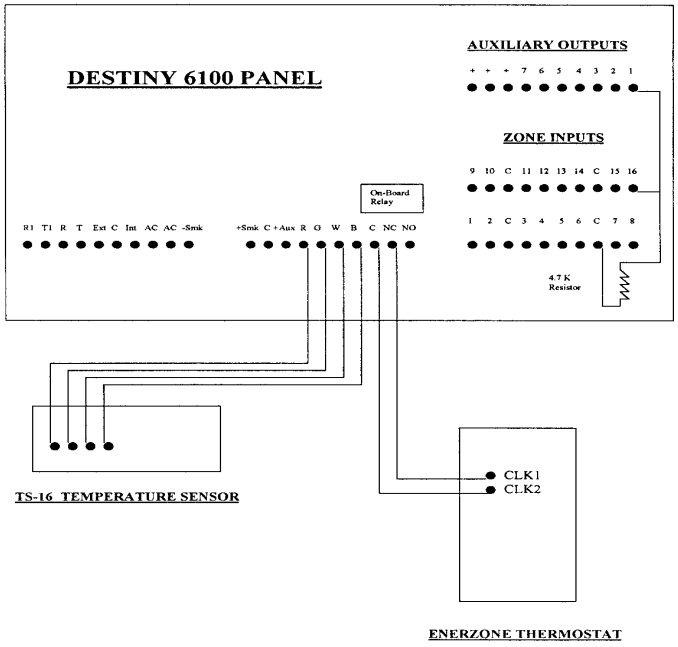
3) Disarming the system or arming the system to Home sends an “ON” command to Control Channel 2 energizing Auxiliary Output pin 1 and providing a ground signal to activate Zone 16. Zone 16 sends an “OFF” command to Control Channel 33 deenergizing the on-board relay and restoring the connection between CLK1 and CLK2.

4) After one second, the system sends an “OFF” command to Control Channel 2 deenergizing Auxiliary Output pin1 and removing the ground signal to restore Zone 16. Zone 16 sends an “ON” command to Control Channel 33 energizing the on-board relay to interrupt the connection between CLK1 and CLK2 and place the thermostat in the Day (Home) mode.

Required Programming

Location	Value	Function
4097	011	Enable control channel 1 with automatic turn-off (Thermostat Away Mode)
4101	001	On units (seconds)
4119	008	Auxiliary output 8
4121	011	Enable control channel 2 with automatic turn-off (Thermostat Home Mode)
4125	001	On units (seconds)
4143	001	Auxiliary output 1
4865	001	Enable channel 33
4887	008	Auxiliary output 8
0193	002	System trigger, arm to home
4063	002	System trigger option, activate=on
0194	001	System trigger, arm to away
4064	002	System trigger option, activate=on
0196	002	System trigger, disarm
4066	002	System trigger option, activate=on
1141	006	Zone – control channel link (zone 16, channel 33)
1142	033	Zone – control channel link option (open=off, close=on)
9940	16	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware input = 000, Input = 16
9940	17	Zone type = 011, Option 1 = 064, Option 2 = 001,
		Hardware input = 022, Input = 01
6657	117	Enable sensor, speak temperature with time, high and low limits,
		hysteresis = 2 degrees
6659	085	High limit temperature (programmable)
6660	065	Low limit temperature (programmable)
0135	005	Speak remote control menu, speak temperature when time is requested
9921	01	267(Thermostat), 032(Away), 107(Mode)
9921	02	267(Thermostat), 087(Home), 107(Mode)

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
1 2 C 3 4 5 6 C 7 8
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
4.7 K Resistor
TS-16 TEMPERATURE SENSOR
CLK1
CLK2
ENERZONE THERMOSTAT

- HVAC Temperature Control - Mechanical Thermostat -
Energy Savings While in the Away Mode

Objective

Provide energy savings in the Away mode by maintaining the temperature at a lower heating setpoint and a higher cooling setpoint.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex Relay Expansion Module, EXP8
- Apex Temperature Sensor, TS16
- W.W. Grainger, ICM203 Delay-On-Break Relay, p/n 4E234
- Existing Mechanical Thermostat

Sequence of Operation

When armed to Away the system will interrupt control power to the existing mechanical thermostat and turn the HVAC system off. Control power is restored to the thermostat when the temperature drops to the TS16 low limit setpoint or rises to the high limit setpoint allowing the HVAC system to turn on and bring the temperature back to within the low and high limits. When the system is disarmed control power will be restored to the thermostat and the temperature will be maintained at its heating and cooling setpoints.

System Sequence of Events

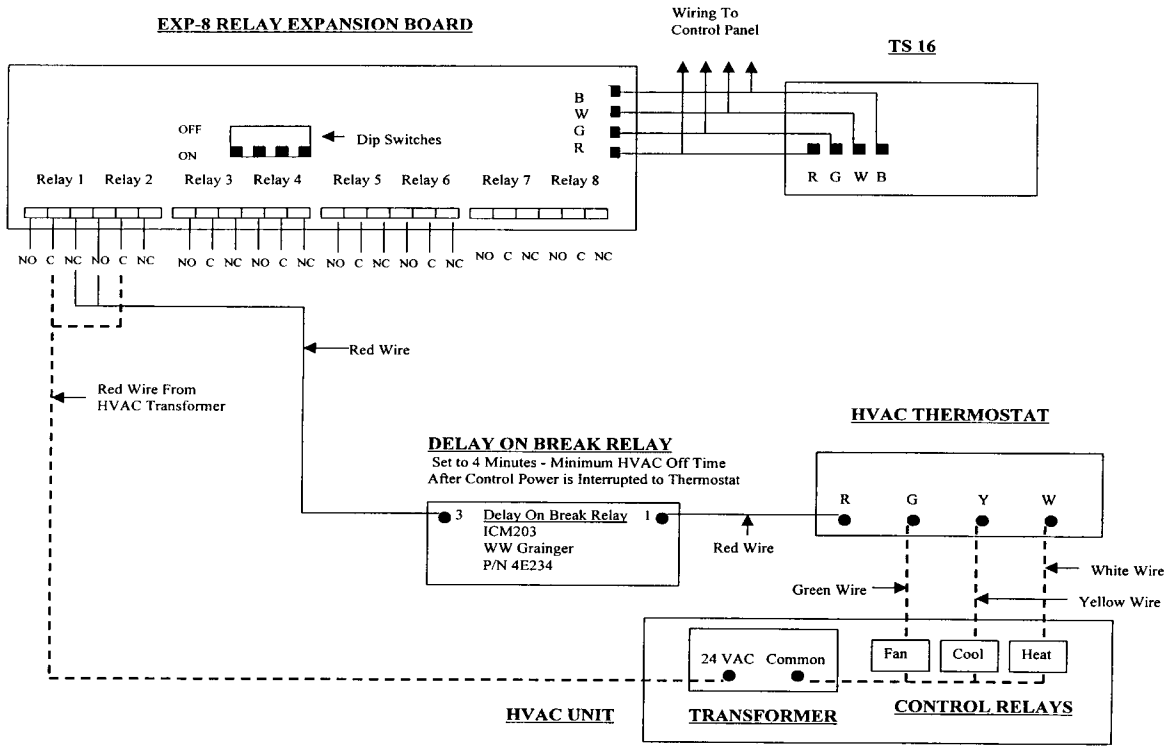
1) Arming the system to Away sends an “ON” command to Control Channel 1 energizing relay 1 on the EXP8 expansion board and interrupting control power to the thermostat.
2) When the temperature drops to the TS16 low limit setpoint or rises to the TS16 high limit setpoint an “ON” command is sent to Control Channel 33 energizing relay 2 on the EXP8 expansion board and restoring control power to the thermostat.
3) When the temperature rises 2 degrees higher than the TS16 low limit setpoint or drops 2 degrees lower than the TS16 high limit setpoint an “OFF” command is sent to Control Channel 33 once again interrupting control power to the thermostat.
4) Disarming the system sends an “OFF” command to Control Channel 1 restoring power to the thermostat which will maintain the temperature at its heating and cooling setpoints.

Note: Once control power has been interrupted to the thermostat, the delay-on-break relay will prevent control power from being restored to the thermostat again until the minimum off time of 4 minutes has elapsed. This will help prevent short-cycling which could damage the HVAC unit.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 064, Option 2 = 001,
		Hardware device = 022, Input = 01
4097	001	Enable control channel 1
4119	009	Auxiliary output 9
4865	001	Enable control channel 33
4887	010	Auxiliary output 10
0194	001	System trigger – arm to away
4064	006	System trigger options
0901	009	Zone – control channel link option (open = on, close = off)
0902	033	Zone – control channel link channel (zone 1, channel 33)
6657	117	Enable sensor, speak temperature with time, high and low limits,
		hysteresis = 2 degrees
6659	085	High limit temperature (programmable)
6660	065	Low limit temperature (programmable)
0135	005	Speak remote control menu, speak temperature when time is requested

Application Diagram



- Application Note -
Energy Management

- Delayed HVAC Cut-Off After Door Opening -

Objective

Save energy costs by operating HVAC only when needed.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex Relay Expansion Module, EXP8
- W.W. Grainger, ICM253 Post-Purge Relay, p/n 4E890
- W.W. Grainger, ICM203 Delay-On-Break Relay, p/n 4E234

Sequence of Operation

If one or more doors open and remain open for a predetermined time period, then the HVAC unit will be disabled to prevent unnecessary heating and cooling.

System Sequence of Events

1) When a door is opened the EXP-8 relay linked to the zone will energize and interrupt the control signal to the post-purge relay.

2) The post-purge relay will begin a timed countdown period and will interrupt the 24 VAC control power to the room thermostat if the door remains open at the end of the count-down period.

3) If the door closes during the countdown period there will be no interruption of control power and the HVAC unit will remain enabled under the control of the room thermostat.

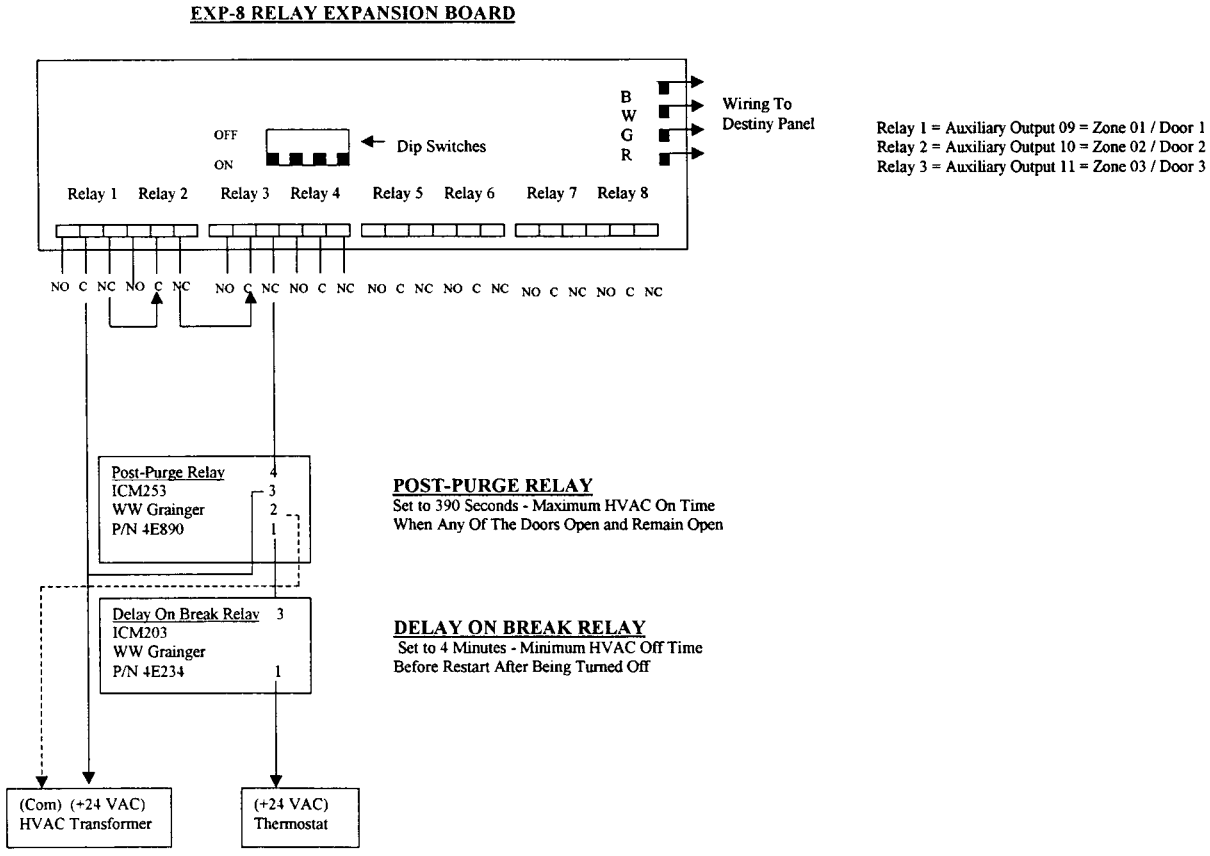
4) The timed countdown period will begin after each door opening.

Note: If the HVAC unit is disabled due to an extended door opening the delay-on-break relay will not allow it to restart until the minimum off time has expired. This will help prevent short-cycling of the HVAC equipment.

Required Programming

Location	Value	Function
9940	01	Zone type = 001, Option 1 = 080, Option 2 = 001,
		Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 02
9940	03	Zone type = 013, Option 1 = 064, Option 2 = 001,
		Hardware device = 000, Input = 03
4097	001	Enable control channel 1
4119	009	Auxiliary output 9
4121	001	Enable control channel 2
4143	010	Auxiliary output 10
4145	001	Enable control channel 3
4167	011	Auxiliary output 11
0901	009	Zone - Control Channel Link Option (open = ON, close = OFF)
0902	001	Zone - Control Channel Link Option (Zone 1, Channel 1)
0917	009	Zone - Control Channel Link Option (open = ON, close = OFF)
0918	002	Zone - Control Channel Link Option (Zone 2, Channel 2)
0933	009	Zone - Control Channel Link Option (open = ON, close = OFF)
0934	003	Zone - Control Channel Link Option (Zone 3, Channel 3)

Application Diagram


EXP-8 RELAY EXPANSION BOARD
B
W
G
R
Wiring To
Destiny Panel
OFF
ON
Dip Switches
Relay 1 Relay 2 Relay 3 Relay 4 Relay 5 Relay 6 Relay 7 Relay 8
NO C NC NO C NC NO C NC NO C NC NO C NC NO C NC NO C NC NO C NC
Relay 1 = Auxiliary Output 09 = Zone 01 / Door 1
Relay 2 = Auxiliary Output 10 = Zone 02 / Door 2
Relay 3 = Auxiliary Output 11 = Zone 03 / Door 3
Post-Purge Relay
ICM253
WW Grainger
P/N 4E890
4
3
2
1
POST-PURGE RELAY
Set to 390 Seconds - Maximum HVAC On Time
When Any Of The Doors Open and Remain Open
Delay On Break Relay
ICM203
WW Grainger
P/N 4E234
3
1
DELAY ON BREAK RELAY
Set to 4 Minutes - Minimum HVAC Off Time
Before Restart After Being Turned Off
(Com) (+24 VAC)
HVAC Transformer
(+24 VAC)
Thermostat

- Application Note -
Energy Management

- Sequenced Sprinkler Control -

Objective

Provide sequenced on and off control for multiple sprinkler valves.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex Relay Expansion Module, EXP8

Sequence of Operation

Pressing the keypad F1 button will activate a Chain Channel that will cause sprinkler valve 1 to turn on for 15 minutes (programmable) and then turn off. At this time, sprinkler valve 2 will turn on for 15 minutes and then turn off. Then sprinkler valve 3, sprinkler valve 4, etc. will repeat the on/off cycle.

System Sequence of Events

1) Press F1 to activate Chain Channel 5.

2) Chain Channel sequence activates all relays starting with Relay 1 for 15 minutes, Relay 2 for 30 minutes, etc.

3) Relay 1 switches power to NO to activiate valve 1, thus breaking power to following relays / valves.

4) Relay 1 is restored after 15 minutes reconnecting power to relay 2 for the remainder of its countdown time (15 minutes).

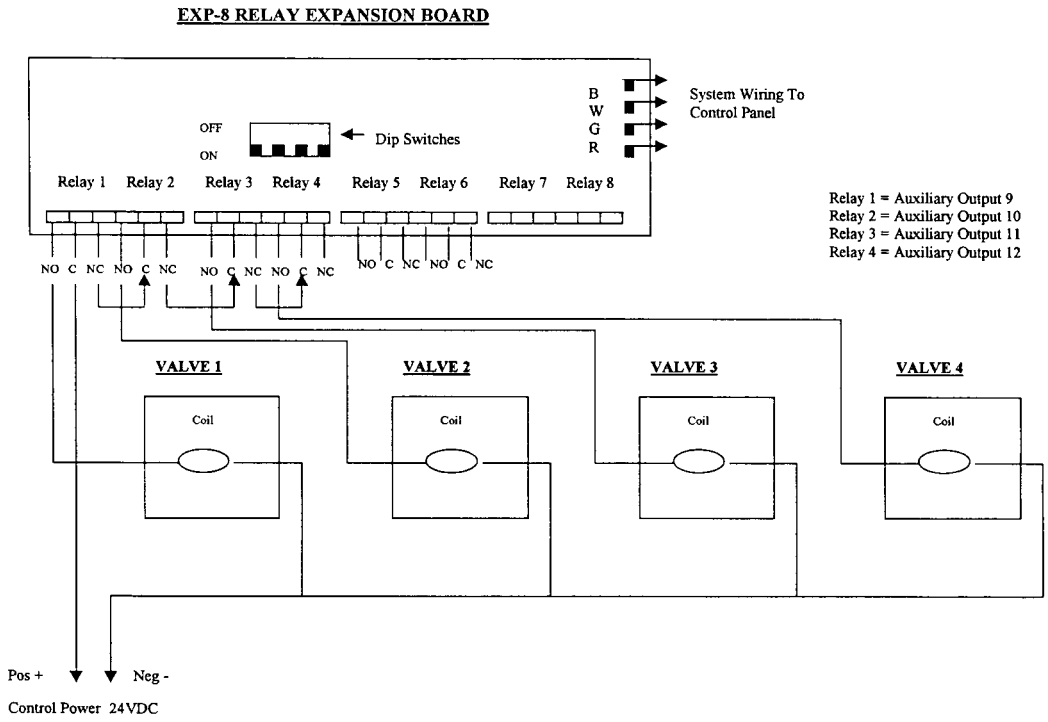
5) Relay 2 then restores to energize Relay 3 for the remainder of its countdown time (15 minutes).

Note: This sequence passes power when relays restore to normally closed (NC) via the jumpers.

Required Programming

Location	Value	Function
4097	009	Enable control channel 1 and enable automatic turn-off in minutes
4101	015	On units
4119	009	Auxiliary output 9
4121	009	Enable control channel 2 and enable automatic turn-off in minutes
4125	030	On units
4143	010	Auxiliary output 10
4145	009	Enable control channel 3 and enable automatic turn-off in minutes
4149	045	On units
4167	011	Auxiliary output 11
4169	009	Enable control channel 4 and enable automatic turn-off in minutes
4173	060	On units
4191	012	Auxiliary output 12
4193	001	Enable control channel 5
4195	001	Enable chain channel
4214	001	Channel group assignment 1
5441	001	Channel activation 1
5442	002	Channel activation 2
5443	003	Channel activation 3
5444	004	Channel activation 4
4021	005	Output control assignment 1
4022	002	Toggle control channel on / off
3630	024	Keypad F1 button linked to output control assignment 1

Application Diagram



- Application Note -
End User Convenience

- Quick Exit Without Disarming -

Objective

With the system armed, provide the ability to temporarily shunt a zone or zones by simply pressing a single keypad function key (F1 or F2), allowing quick exit without having to disarm then re-arm.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad

This application can be used in providing convenience when letting the dog out or taking the trash to the street.

Sequence of Operation

Press a keypad function key (F1 or F2), then exit through the appropriate zone. Upon returning, press the function key again.

Note: As a safeguard, the control panel will automatically remove the shunt after ten minutes (programmable).

System Sequence of Events

1) Pressing the keypad function key (F2 will be used for this Application Note) will send an ON command to Control Channel 1.

2) Control Channel 1 is programmed to energize the on-board relay (Auxiliary Output 8) which will drop a 4.7k resistor across the contact switch/zone loop to be shunted.

3) Pressing the keypad function key again (F2) will send an OFF command to Control Channel 1. The on-board relay will de-energize and remove the 4.7k resistor from the contact switch/zone loop.

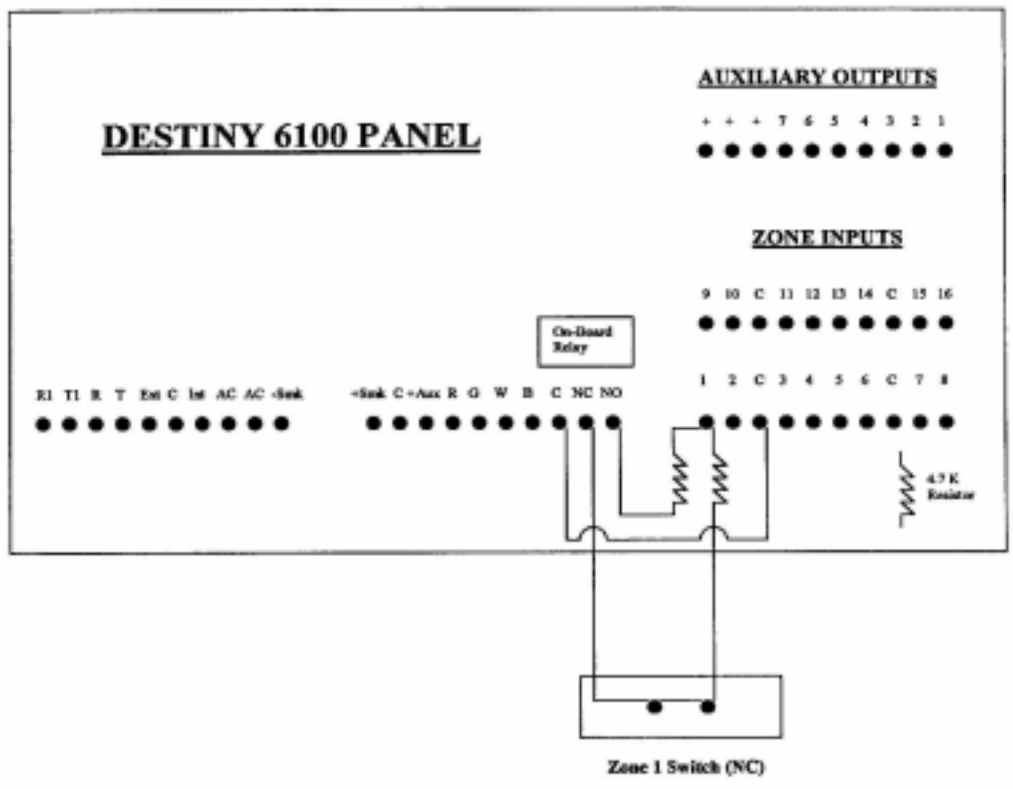
4) The control panel will also send an OFF command to Control Channel 1 ten minutes after first pressing F2.

Note: This Application is for hardwired contacts/devices only.

Required Programming

Location	Value	Function
3631	024	Enable F2 key for output control #1
4097	009	Enable control channel 1 for countdown in minutes
4101	010	On units = 10 minutes
4119	008	Auziliary Output 8
4021	001	Link output control #1 to control channel 1
4022	002	Output control #1 option, toggle
9940	01	Zone type = 000, Option 1 = 080, Option 2 = 001,
		Hardware device = 000, Input = 01
9921	01	148(Side), 060(Door), 044(Bypassed)

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Sink
-Sink C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Zone 1 Switch (NC)

- Application Note -
End User Convenience

- Doorbell Chime with Greeting Message -

Objective

When the doorbell is pressed, it will give it's normal chime followed by a greeting message.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- System Sensor Relay, A77-716B

This application can be used when there are multiple doorbells (front door, side door, back door) and the end user would like to know exactly which doorbell was pressed.

Sequence of Operation

When someone presses the doorbell the normal doorbell chime will sound followed by a greeting message over the internal speakers and/or keypad speakers.

System Sequence of Events

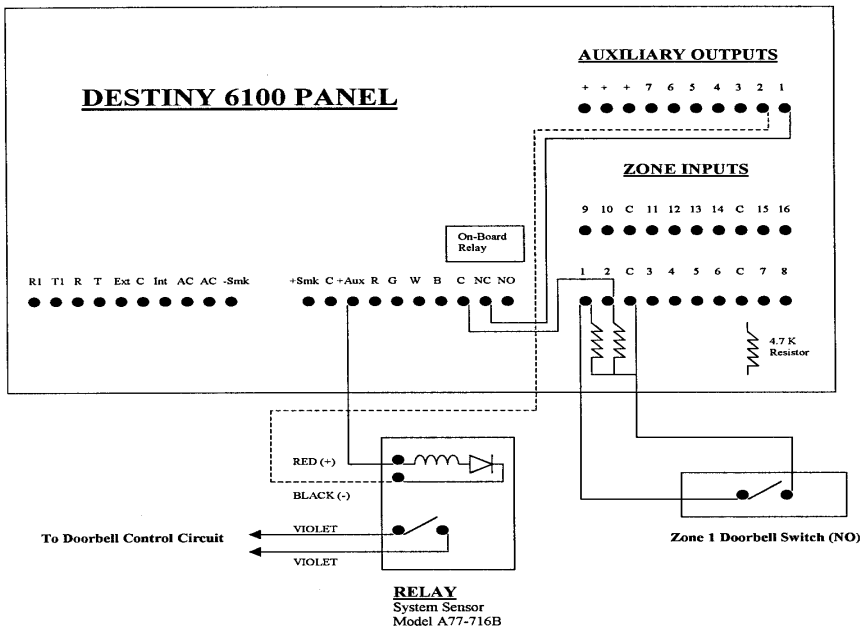
1) Zone 1 (door bell) activates sending an ON command to activate Control Channel 1 (Chain Channel 1) which energizes Auxiliary Output 2 which in turn energizes the door bell chime relay. The relay will turn off after one second.

2) Channel 1 also energizes the on-board relay (Auxiliary Output 8) and then Auxiliary Output 1. The ground signal from Auxiliary Output 1 is now available at the normally closed (NC) contacts of the on-board relay. This signal will pass through to Zone 2 (Guest At Door) when the on-board relay is returned to its normally closed position after two seconds and the system will speak "Guest at Door".

Required Programming

Location	Value	Function
4097	001	Enable control channel 1
4099	001	Enable chain channel
4118	001	Chain channel 1
4121	011	Enable control channel 2 with automatic turn-off
4125	001	On units (seconds)
4143	002	Auxiliary output 2
4145	011	Enable control channel 3 with automatic turn-off
4149	003	On units (seconds)
4167	001	Auxiliary output 1
4169	011	Enable control channel 4 with automatic turn-off
4173	002	On units (seconds)
4191	008	Auxiliary output 8
5441	002	Chain channel assignment 1
5442	004	Chain channel assignment 2
5443	003	Chain channel assignment 3
0901	001	Zone link option (opens = ON, closes = NONE)
0902	001	Zone 1 linked to channel 1
9940	01	Zone type = 011, option 1 = 000, option 2 = 001,
		hardware input = 000, input = 01
9940	02	Zone type = 011, option 1 = 064, option 2 = 033,
		hardware input = 000, input = 02
9920	001	060 (Door), 366 (Bell)
9920	002	083 (Guest), 306 (At), 060 (Door)

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
RED (+)
BLACK (-)
To Doorbell Control Circuit
VIOLET
VIOLET
Zone 1 Doorbell Switch (NO)
RELAY
System Sensor
Model A77-716B

- Application Note -
End User Convenience

- Doorbell Interface with Local Two-Way Voice -

Objective

To provide a spoken message when an entry doorbell is pushed, and allow the end user to communicate with the guest through any on-premise touch tone phone.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Speaker (8 ohm - 10 watt minimum)
- Microphone (5V omnidirectional electret condenser)

Sequence of Operation

When the doorbell is pressed, the system will annunciate “Guest at Front Door” through the internal speaker(s). The end user can then pick up any on-premise touch tone phone, access the control panel, and be able to listen and speak to the guest at the entry door.

System Sequence of Events

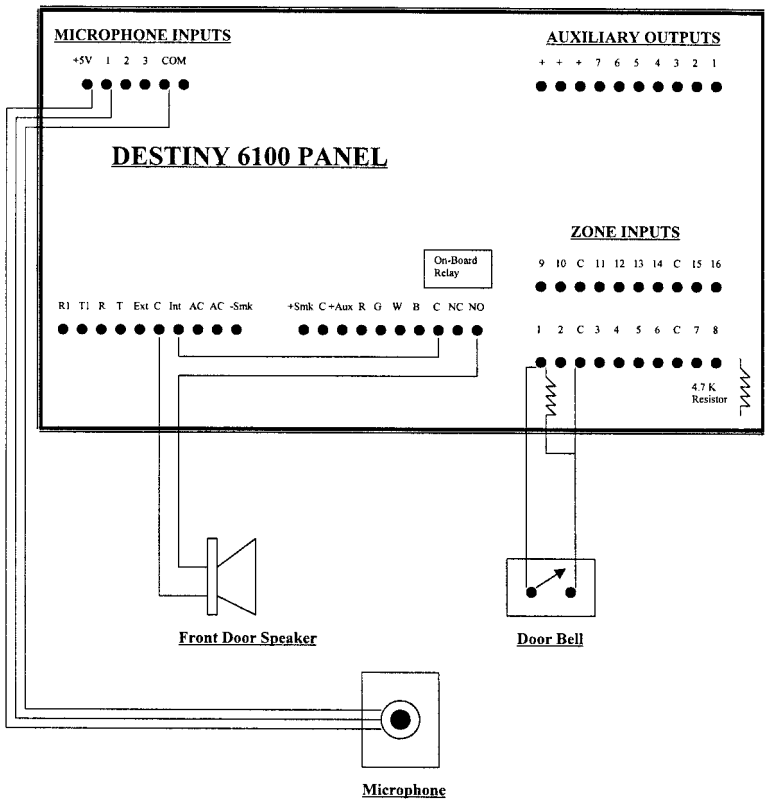
1) Activating the doorbell switch will activate Zone 1 and the zone descriptor will be annunciated through the internal speakers.
2) The end user may pick up any on-premise touch tone phone and press *,# to gain local phone access folllowed by 9,9,9,9 to activate 2-way voice. While in 2-way voice, pressing * will allow the end user to listen to the guest, and pressing # will allow the end user to speak to the guest.
3) Following 2-way voice communication, the end user may press “0” or simply hang up the phone.

Note: The microphone and speaker are wired next to entry door. To prevent normal system speech from being broadcast through the entry door speaker, the on-board relay is used to activate the speaker only during 2-way voice operation.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 064, Option 2 = 033,
		Hardware device = 000, Input = 01
9920	001	083(Guest), 306(At), 077(Front), 060(Door)
4097	001	Enable control channel 1
4119	008	Assign control channel 1 to the on-board relay
0203	001	Activate the on-board relay only while 2-way voice is active

Application Diagram


MICROPHONE INPUTS
+5V 1 2 3 COM
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Front Door Speaker
Door Bell
Microphone

- Application Note -
End User Convenience

- Doorbell Interface with Remote Two-Way Voice -

Objective

To provide the end user with the ability to communicate with a visitor through an off-premise touch-tone phone after an entry doorbell is pushed.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Speaker (8 ohm - 10 watt minimum)
- Microphone (5V omnidirectional electret condenser)

Sequence of Operation

When the doorbell is pressed, the system will annunciate the zone description through the internal speaker(s) and then dial the secondary phone number. The phone will ring and when the end user picks it up, a series of distinct single tones will be heard. The tones are generated from the system to give an immediate indication that it is their Apex security system calling and a visitor has just pressed the doorbell. The end user will then hit any key on the phone to silence the tones and allow direct communication to the visitor at the entry door.

System Sequence of Events

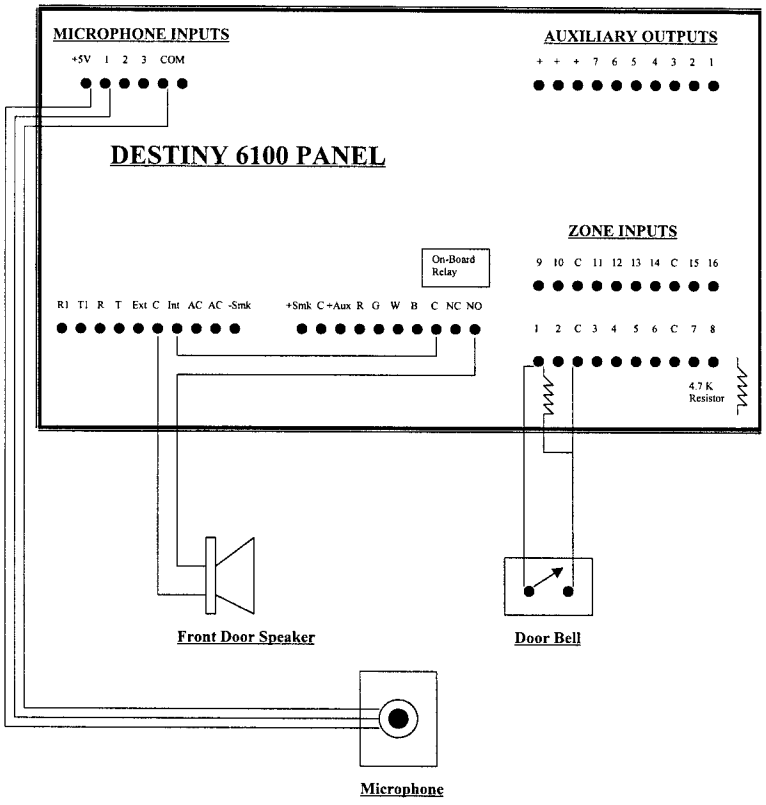
1) Activating the doorbell switch will activate Zone 1 and the zone descriptor will be annunciated through the internal speaker(s).
2) If the system is armed to Away, the activation of Zone 1 will cause a pull-to-ground pin to silently activate Zone 2 which is programmed to dial phone number 2.
3) The panel willl dial phone number 2 (could be an office phone number, cellular phone, etc) and enter two-way voice - listen/talk mode when the end user answers. While in two-way voice, pressing * will allow the end user to listen to the visitor, and pressing # will allow the end user to speak to the visitor.
4) Following two-way voice communication, the end user may press “0” to enter keypad mode or simply hang up the phone.

Note: The microphone and speaker are wired next to the entry door. To prevent normal system speech from being heard through the entry door speaker, the on-board relay is used to activate the speaker only during two-way voice operation.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 064, Option 2 = 033,
		Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 016, Option 2 = 001,
		Hardware device = 000, Input = 02
0398	134	Enable auxiliary zone type to dial phone number 2 and activate 2-way
9920	001	083(Guest), 306(At), 077(Front), 060(Door)
0901	002	Link zone 1 to control channel 2
0902	001	Zone opening sends an ON command to channel 2
4097	001	Enable control channel 1
4119	008	Assign control channel 1 to the on-board relay
0203	001	Activate the on-board relay only while 2-way voice is active
4121	011	Enable control channel 2 with countdown in seconds
4124	160	Disable channel 2 when system is disarmed, or armed to home/night
4125	003	Give channel 2 a 3-second countdown
4143	001	Assign channel 2 to auxiliary output pin #1
0464	009	Two-way voice options = 0 exits to keypad mode/one digit access

Application Diagram


MICROPHONE INPUTS
+5V 1 2 3 COM
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Front Door Speaker
Door Bell
Microphone

- Application Note -
End User Convenience

- Silence a Selected Keypad / Internal Speaker -

Objective

Provide the end user with the ability to silence a keypad / internal speaker through a single keypad function key (F1 or F2).

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad

Sequence of Operation

At any time the end user can press the assigned keypad function key (F1 or F2) to silence the selected speaker. Pressing the assigned key again will return the speaker to an active state.

Note: The control panel will instantly restore the speaker to an active state for any alarm activation.

System Sequence of Events

1) Pressing the keypad function key (F2 will be used for this Application Note) will send an ON command to Control Channel 1.

2) Control Channel 1 is programmed to energize the on-board relay (Auxiliary Output 8). The speaker to be silenced will be wired through the on-board relay normally closed (NC) terminal.

3) Pressing the F2 key will energize the on-board relay thus silencing the speaker. Pressing the F2 key again will send an OFF command to Control Channel 1 and de-energize the on-board relay, returning the speaker to an active state.

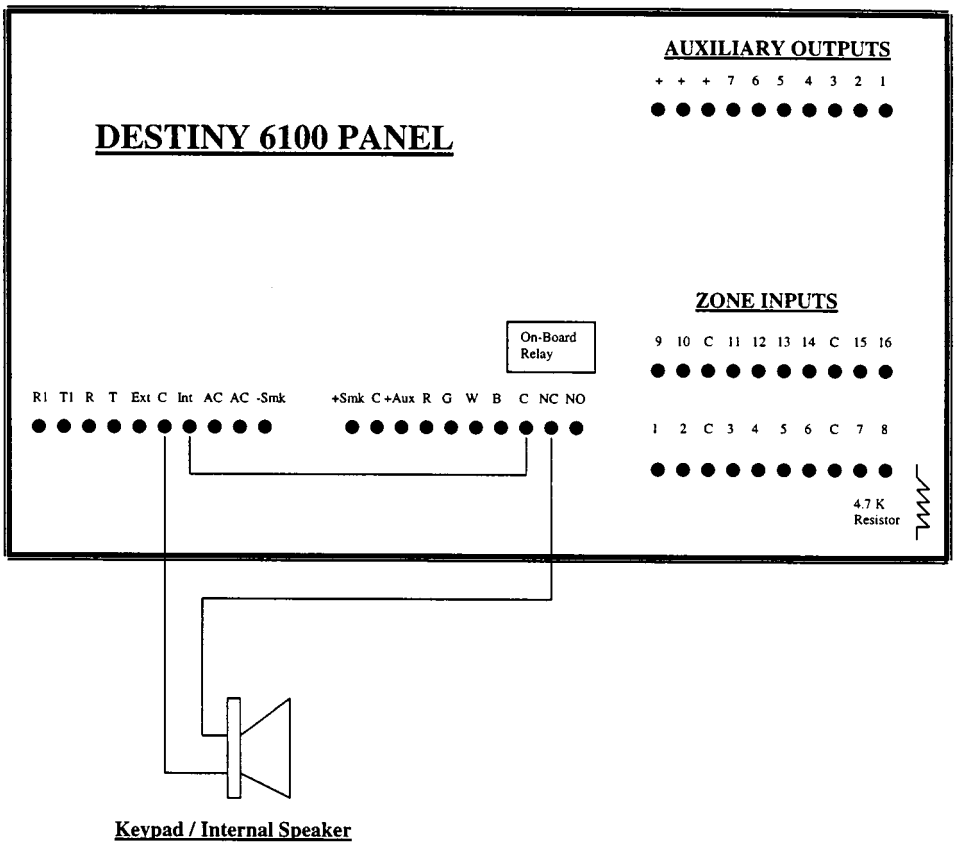
4) The control panel will also send an OFF command to Control Channel 1 if any alarm should occur to ensure that the speaker is active.

Note: A slight modification of this application will allow the silencing of multiple speakers, either through time of day or end user key entry.

Required Programming

Location	Value	Function
3631	024	Enable F2 key for output control #1
4097	001	Enable control channel 1
4119	008	Control channel 1 to on-board relay (Aux. Output #8)
4021	001	Link output control #1 to control channel 1
4022	002	Toggle control channel 1
0183	001	Any alarm activation trigger to control channel 1
4053	001	Activation action OFF for any alarm trigger

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Keypad / Internal Speaker

- Application Note -
End User Convenience

- Silence a Selected Keypad / Internal Speaker -
in Home/Night Modes

Objective

When the control panel is armed in the Home/Night mode, the selected speaker is silent. The speaker remains silent until after disarm.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad

This application allows a specific internal speaker in Home / Night mode to be silent while others remain active.

Sequence of Operation

Arming the control panel to Home/Night mode will automatically silence the selected speaker until five seconds after the control has been disarmed.

Note: The control panel will instantly restore the speaker to an active state for any alarm activation.

System Sequence of Events

1) The control is armed to Home/Night, sending an ON command to Control Channel 1.

2) Control Channel 1 is programmed to energize the on-board relay (Auxiliary Output 8).

3) The speaker to be silenced will be wired through the on-board relay normally closed (NC) termainal.

4) When the on-board relay energizes the speaker wiring loop will open.

5) The control is disarmed, sending an OFF command to Control Channel 2.

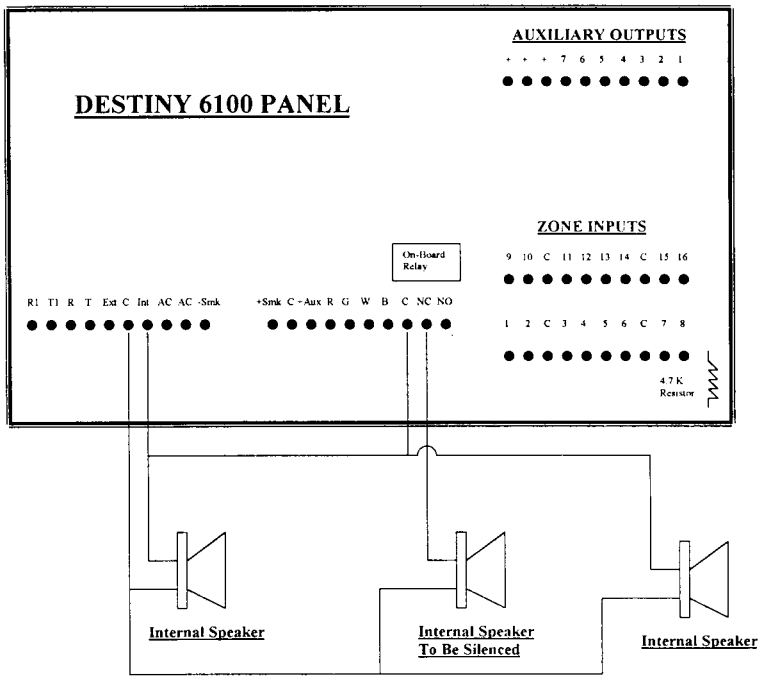
6) Control Channel 2 is programmed to de-energize the on-board relay five seconds after disarm, returning the speaker to an active state.

7) The control panel will send an OFF command to Control Channel 1 and de-energize the on-board relay if any alarm activation should occur to ensure that the speaker is active.

Required Programming

Location	Value	Function
4097	001	Enable control channel 1
4119	008	On-board relay
4121	011	Enable control channel 2 for Auto Turn OFF
4125	005	Sets Turn OFF time for five seconds
4143	008	On-board relay
0193	001	Links Arm to Home trigger to channel 1
4063	002	Arm to Home activation action = ON, restore action = NONE
0209	001	Links Arm to Night trigger to channel 1
4079	002	Arm to Night activation action = ON, restore action = NONE
0196	002	Links Disarm trigger to channel 2
4066	002	Disarm activation action = ON, restore action = NONE
0183	001	Links Any Alarm Activation trigger to channel 1
4053	001	Any Alarm trigger activation action = OFF, restore action = NONE

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C -Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
Internal Speaker
Internal Speaker To Be Silenced
Internal Speaker

- Application Note -
End User Convenience

- Bathroom Courtesy Fan -
Sure Action Pulsor Sensor

Objective

To automatically activate the bathroom exhaust fan when someone steps into the shower or in front of the commode.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- Sure Action 4000/8000 Series Pulsor Sensors
- Sure Action Processor, SU-313
- X-10 PRO “On” and “Off” Only Wall Switch, XPS3
- X-10 PRO Power Line Interface Module, PSC05

Sequence of Operation

When the stress sensors beneath the floor in front of the commode or shower senses activity, the bathroom fan will automatically turn on for fifteen (15) minutes and then turn off.

System Sequence of Events

1) The weight of a person on the floor in front of the commode or shower will trip a silent zone (Zone 1) on the panel via the Sure Action Pulsor/Processor.

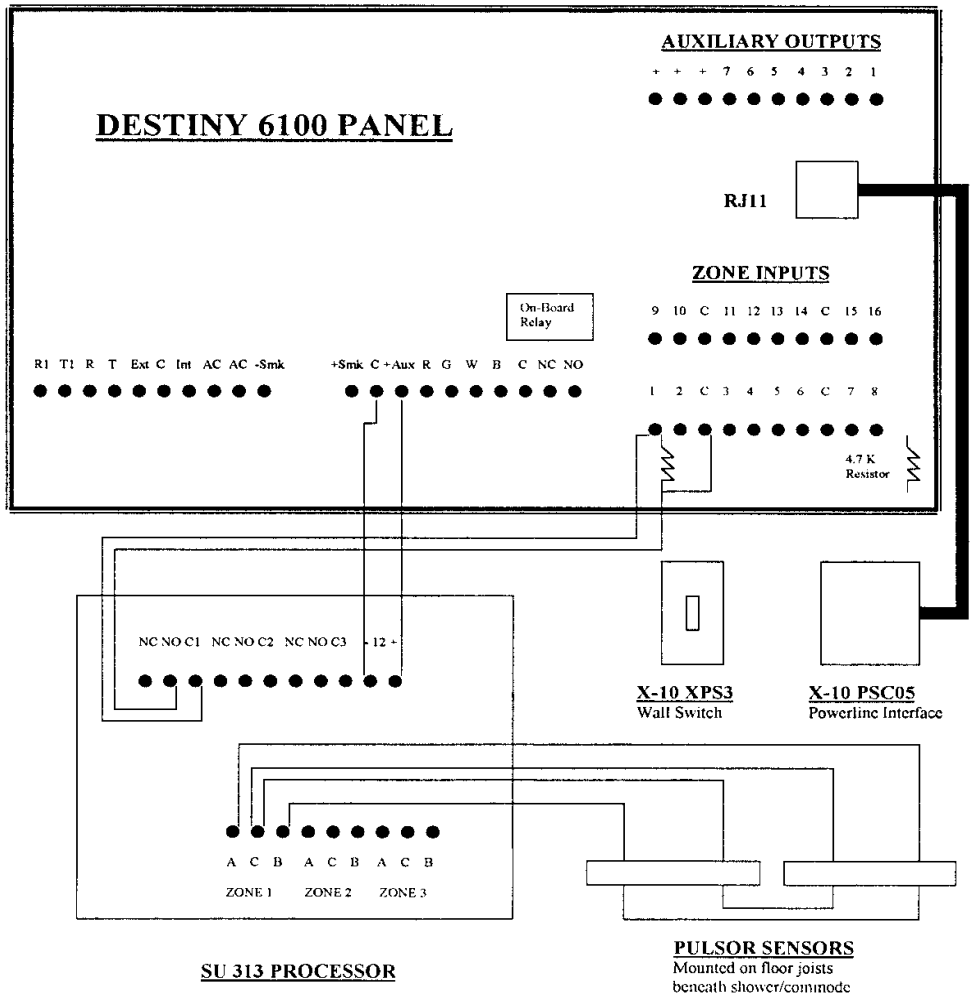
2) The panel will send an X-10 command to turn on the exhaust fan (Control Channel 33 assigned to an X-10 address A1) and will automatically count down for fifteen (15) minutes before turning off the fan.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware input = 000, Input = 1
4886	096	Assign Control Channel 33 to the X-10 unit A1
4865	009	Enable Control Channel 33 with countdown in minutes
4869	015	Assign a 15 minute countdown
0902	033	Link Zone 1 to Control Channel 33
0901	001	When Zone 1 opens, send an "ON" command to channel 33

Note: Follow the Pulsor's enclosed instructions for installation and sensitivity adjustment.

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
NC NO C1 NC NO C2 NC NO C3 - 12 +
X-10 XPS3
Wall Switch
X-10 PSC05
Powerline Interface
A C B A C B A C B
ZONE 1 ZONE 2 ZONE 3
SU 313 PROCESSOR
PULSOR SENSORS
Mounted on floor joists
beneath shower/commode

- Application Note -
End User Convenience

- Medicine Reminder -

Objective

Provide daily reminders to take important medicines.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD Keypad

Sequence of Operation

At the programmed time of day, the system will speak “Time for Medicine”. The audible “Time for Medicine” message will be repeated until the keypad function key (F2) is pressed.

System Sequence of Events

1) Time of day operation will trigger Control Channel 1 to energize Auxiliary Output 1.

2) The ground signal from Auxiliary Output 1 will trip Zone 1 and cause the system to speak “Time for Medicine”.

3) Control Channel 1 is set to flash, so Zone 1 will continually trip and close which will cause the system to continually speak “Time for Medicine”.

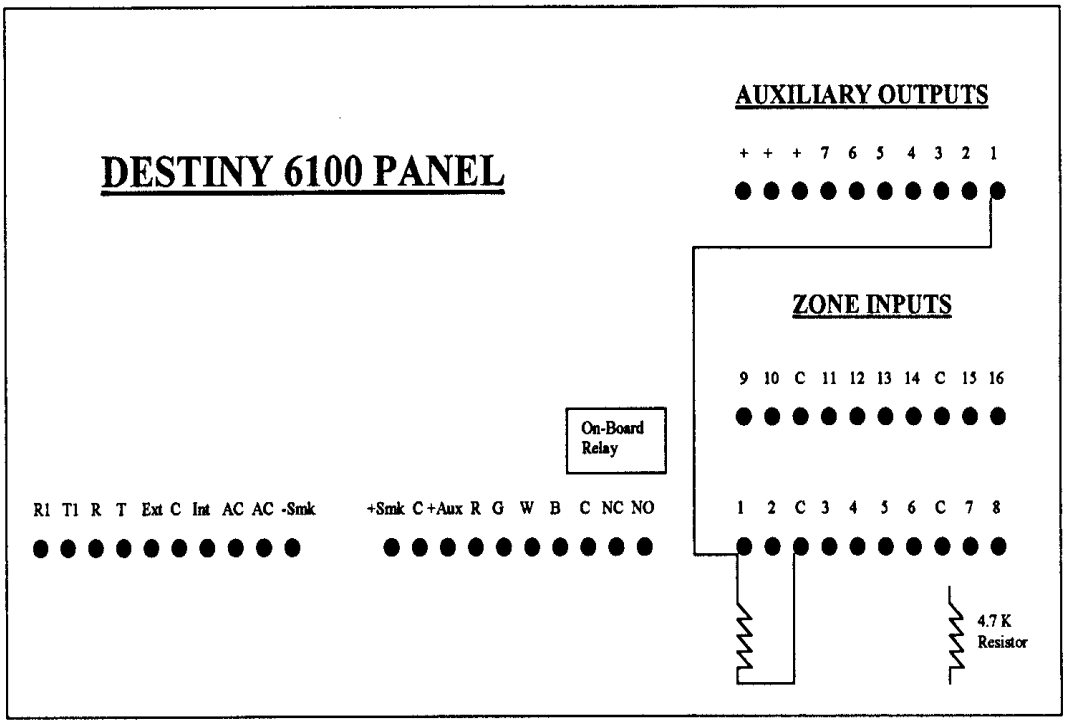
4) Pressing the F2 keypad button will turn off Control Channel 1 and cause the system to stop speaking.

Note: For additional daily reminders, enable additional Control Channels programming them the same as Control Channel 1.

Required Programming

Location	Value	Function
4097	033	Enable control channel 1 with on at time of day
4098	127	Enable day of week operation (all 7 days selected)
4100	001	Enable flash
4119	001	Auxiliary output 1
9992	01	Enter daily turn on time (24 hour format, enter 0000 for off time)
4021	001	Links channel 1 to output control assignment 1
4022	002	Toggles control channel 1 on /off
3631	024	Links F2 keypad button to output control assignment 1
9940	01	Zone type = 011, Option 1 = 064, Option 2 = 033,
		Hardware input = 000, Input = 01
9920	001	Word programming, 249 (Time), 004 (For), 186 (Medicine)

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor

- Application Note -
End User Convenience

- Vacation Mode -

Objective

To provide the end user with a means of activating time controlled channels that will operate lights, applicances, etc. ONLY when they are on vacation.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01

Sequence of Operation

Pressing the 1 and 7 keys on the keypad simultaneously will enter the control panel into a special (vacation) mode. This mode will automatically activate certain designated lights/applicances based on time of day. Pressing the 1 and 7 keys simultaneously again will exit the special (vacation) mode returning the control panel to the normal daily scheduling.

System Sequence of Events

1) Pressing the 1 and 7 keys simultaneously at the keypad will trip a Control Channel which will trip an Auxiliary Output pin. The pin is wired to a zone contact.

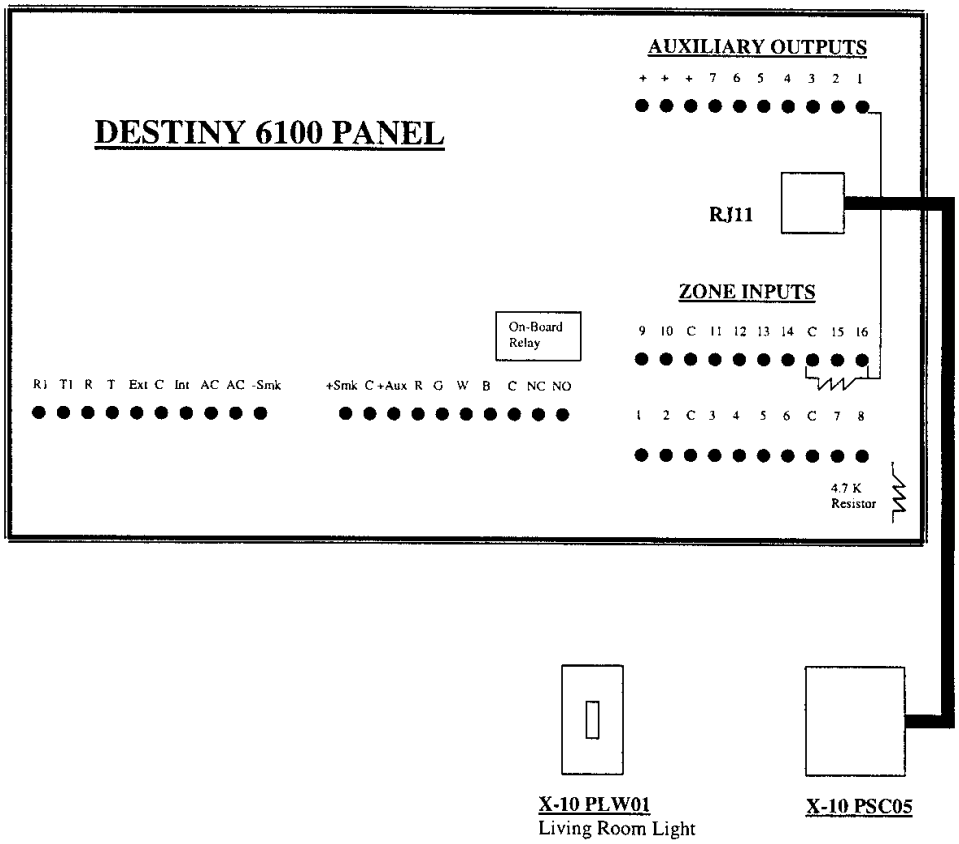
2) The zone is programmed as a Sunrise/Sunset zone. The time of day Control Channels are disabled when light, therefore tripping the zone creates a “dark” condition for the panel. This enables the “vacation” channels to begin operating according to their programmed times.

Note: This application will NOT work properly if a photo cell is being used to activate Control Channels through sunrise/ sunset commands.

Required Programming

Location	Value	Function
9940	16	Zone type = 016, Option 1 = 000, Option 2 = 001,
		Hardware input = 000, Input = 16
3625	024	Defines 1-7 button function as output control 1
4021	033	Links output control 1 to control channel 33
4022	002	Toggles channel on/off
4865	001	Enables control channel 33
4887	001	Auxiliary output pin 1
(Example vacation channel)		
4097	097	Enables control channel 1 for on/off at time of day
4098	127	7 day operation
4100	008	Disabled when light
4118	096	X-10 A-1 on/off
9992	01	"Enter On" = 19:00 (7 pm); "Enter Off" = 23:00 (11 pm)

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
RJ TI R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
X-10 PLW01
Living Room Light
X-10 PSC05

- Application Note -
End User Convenience

- Independent Arm / Disarm Switches -

Objective

Use independent arm and disarm switches so that each switch will perform only the arm function or only the disarm function.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- System Sensor RR1 Relay

Typically used when an outside switch is needed for arming only with a disarm switch located inside.

Sequence of Operation

Activating the designated arm switch will only arm the control to Away. Activating the designated disarm switch will only disarm the control. This application can be used to restrict certain users to arm only and others to disarm only.

Example: A card / proximity reader can be used to activate the arm/disarm switches.

System Sequence of Events

1) Closing the arm switch will trip Zone 1 (Arm/ Disarm) causing the panel to arm to Away.

2) Arming to Away will activate Control Channel 1 (Arm Only) causing Relay 1 to energize and block the common signal from the arm switch until the panel is disarmed.

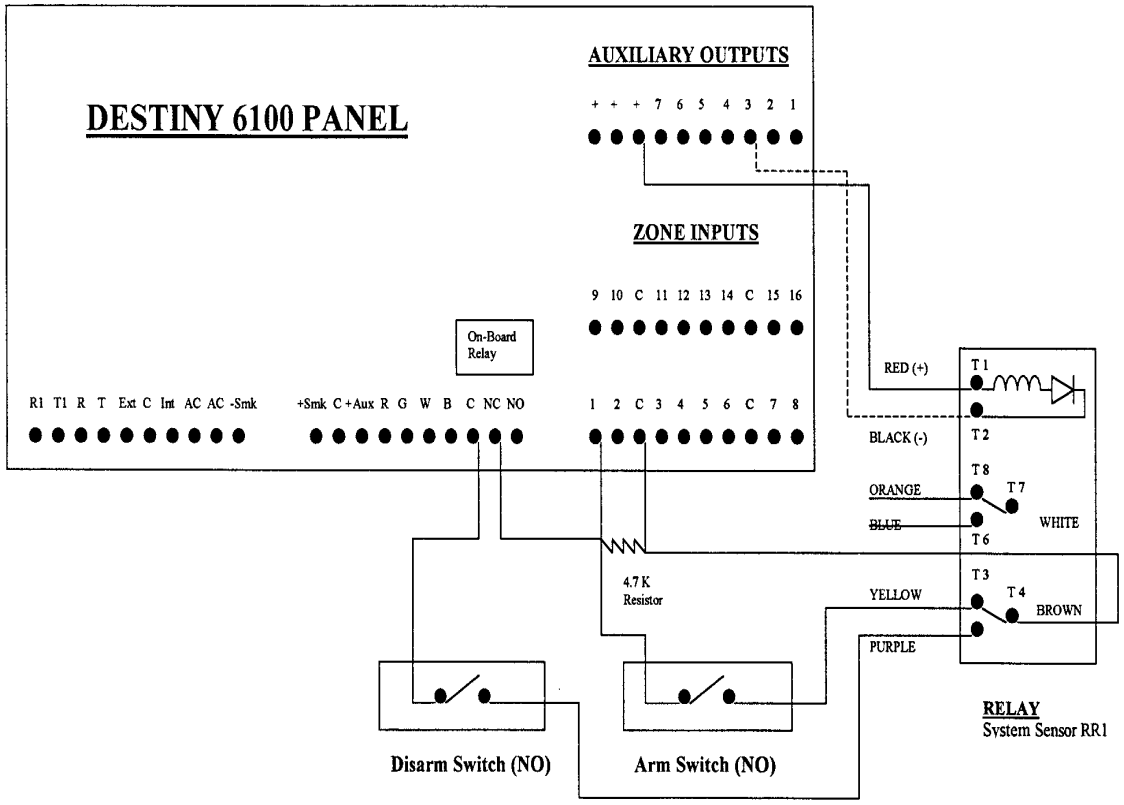
3) Arming to Away also will activate Control Channel 2 (Disarm Delay) causing the on-board relay to energize and block the common signal from the disarm switch until the automatic turn-off time has expired.

Note: The automatic turn-off time must be greater than the exit time to prevent the system from arming to home instead of disarming.

Required Programming

Location	Value	Function
9940	01	Zone type = 014, Option 1 = 000, Option 2 = 001,
		Hardware input = 000, Input = 01
4097	001	Enable control channel 1
4119	003	Links control channel 1 to Aux. Pin 3
4121	011	Enable channel 2 for countdown in seconds
4125	030	Channel 2 on units = 30 seconds
4143	008	Link channel 2 to on-board relay (Aux. 8)
0195	001	Enable Arm to Home, Night, Away trigger for channel 1
4065	006	Activation Action (on) Restore Action (off) for Home, Night, Away trigger
0194	002	Enable Arm to Away trigger for channel 2
4064	006	Activiation Action (on) Restore Action (off) for Away trigger

Application Diagram



- Application Note -
End User Convenience

- Outdoor Keypad Control - IEI Keypad

Objective

To disarm the control panel and open a garage door from an outside keypad.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- IEI Door-Gard Weather Resistant Keypad, 212w

This application can be useful when children arrive home before their parents. This keypad will allow them to safely enter the home with the use of a simple code, therefore eliminating the possibility of a lost key.

Sequence of Operation

The system is disarmed and the garage door is opened from the outside through the use of a weather resistant keypad. When the correct code is entered a step arming zone will be tripped, disarming the control panel. At the same time another zone is tripped, momentarily energizing the on-board relay which will open the garage door.

System Sequence of Events

1) When the correct code is entered, two "pull to ground outputs" on the IEI keypad are tripped momentarily. One output will trip Zone 1 which will disarm the control panel.

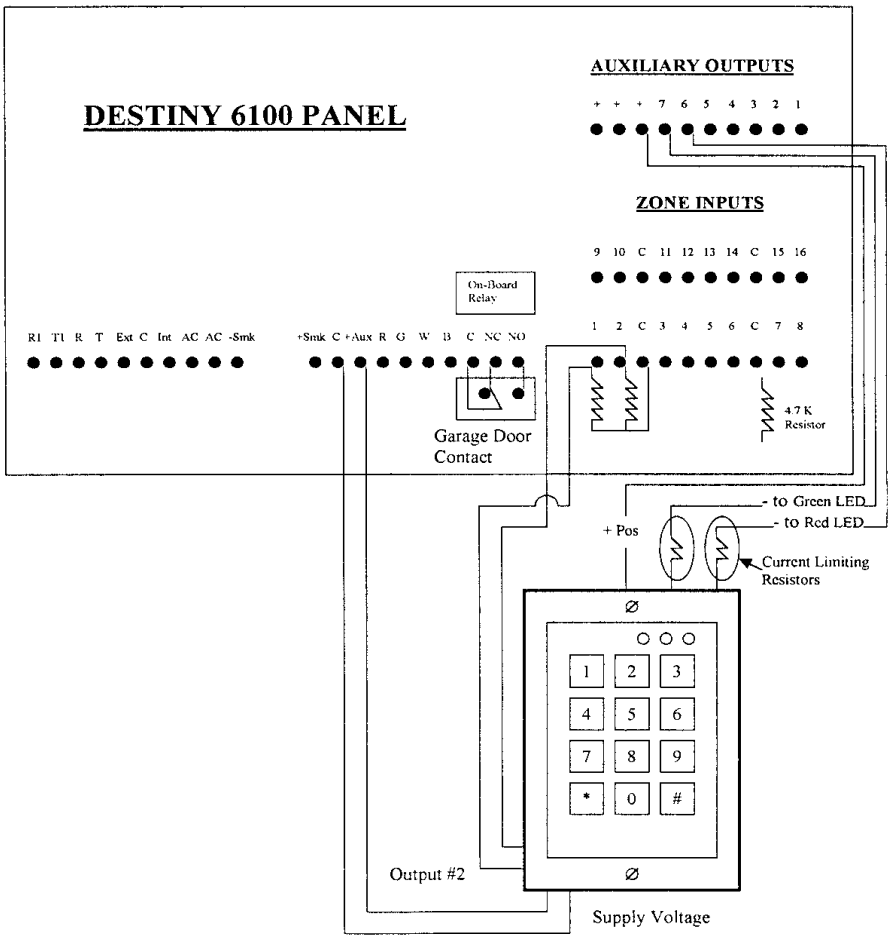
2) The other output will trip Zone 2 which will momentarily energize the on-board relay, opening the garage door.

Note: The red LED on the IEI keypad is ON when the system is armed. The green LED is ON when the system is disarmed.

Required Programming

Location	Value	Function
4097	001	Enables control channel one
4119	007	Activates auxiliary pin seven (green LED)
4121	001	Enables control channel two
4143	006	Activates auxiliary pin six (red LED)
4145	011	Enables control channel three for auto turn off in seconds
4149	002	Two seconds
4167	008	Energizes the on-board relay
0195	002	Arm trigger assigned to control channel two
0196	001	Disarm trigger assigned to control channel one
0917	001	Zone open sends an ON command
0918	003	Links zone two to control channel three
9940	01	Zone type = 014, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 02

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
1 2 C 3 4 5 6 C 7 8
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
4.7 K Resistor
Garage Door Contact
- to Green LED
- to Red LED
+ Pos
Current Limiting Resistors
1 2 3
4 5 6
7 8 9
* 0 #
Output #2
Supply Voltage

- Application Note -
End User Convenience

- Wireless Personal Transmitter Annunciation -

Objective

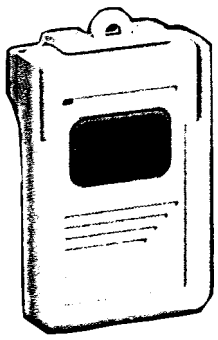
Provide individual extended monitor annunciation at a guard station for up to 80 wireless personal transmitters with a single keypad button to silence the annunciation.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- Apex Wireless Receiver/Bridge, WL500H
- Ademco Wireless Personal Transmitter, 5802MN

Sequence of Operation

When the 5802MN wireless personal transmitter is activated, the system will annunciate the zone description continuously through the keypad speaker until the F2 keypad button is pressed.



5802MN

System Sequence of Events

1) Activating the 5802MN personal transmitter will activate Zone 1 and the zone description will be annunciated continuously through the keypad speaker. The 5802MN functions like a zone input since it is programmed as a 5890 PIR device type. The annunciation will be continuous because the zone type is a day zone.

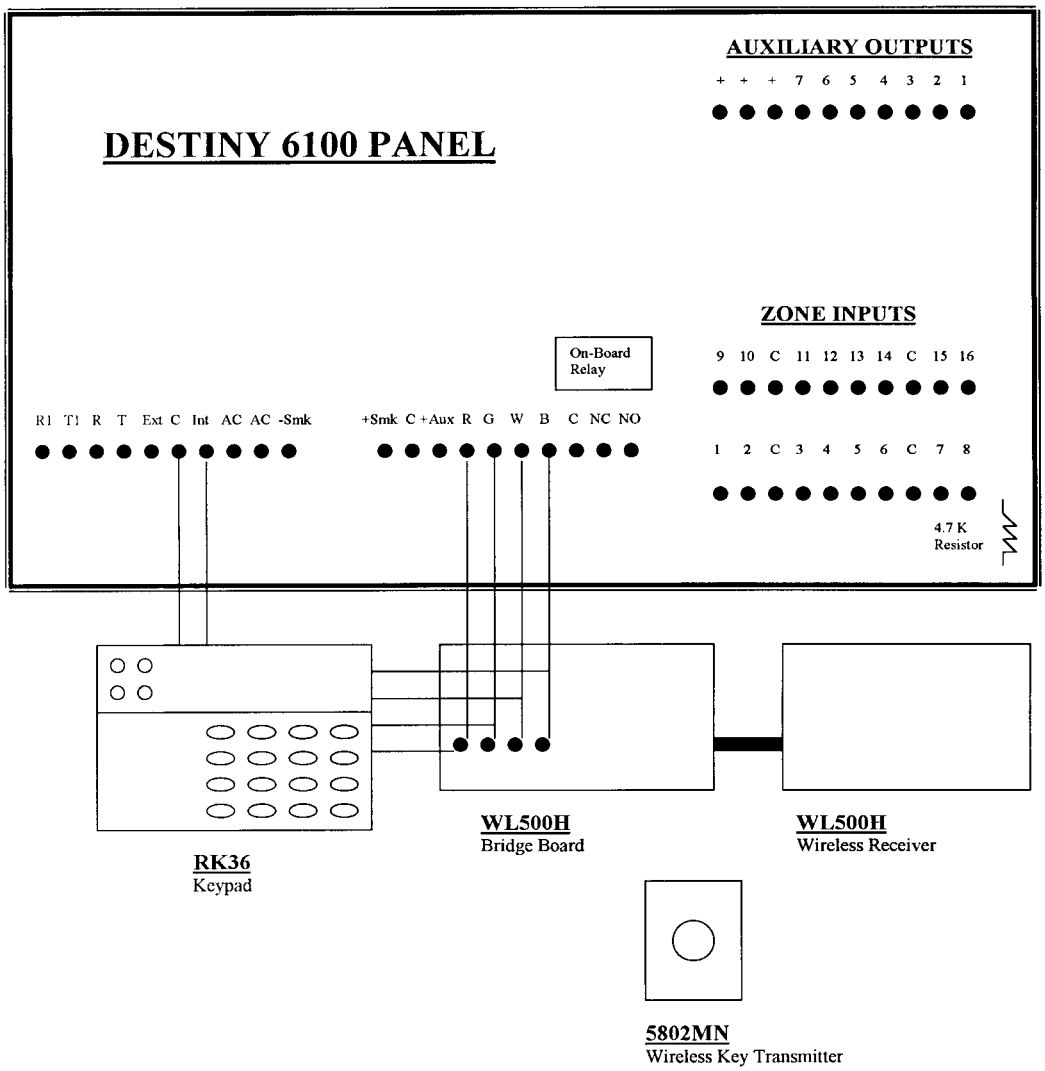
   Note: The system must NOT be armed since the day zone would then become an exterior instant zone type.

2) Pressing the F2 keypad button will silence the annunciation.

Required Programming

Location	Value	Function
9940	01	Zone type = 013, Option 1 = 064, Option 2 = 033,
		Hardware device = 011, Enter serial #
9920	001	141(Room), 001(One)
3631	004	F2 button function - silence day zone
0236	000	Continuous extended monitor

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
RK36
Keypad
WL500H
Bridge Board
WL500H
Wireless Receiver
5802MN
Wireless Key Transmitter

apex

- Application Note -
End User Convenience

- Remote Arming / Disarming and Garage Door Control -
Street Smart Code Encryptor

Objective

To offer an add-on wireless keyfob with basic functions (arm/disarm, panic, and relay output).

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Street Smart Code Encryptor II

The Street Smart Code Encryptor II with wireless keyfob allows the dealer to offer a customer the convenience of keyfob arming, panic, and home control in an affordable, easy to install package.

Note: For more information on the Street Smart Code Encryptor, visit their website at www.streetsmartsecurity.com.

Sequence of Operation

Momentary pressing of button 1 will arm the system to Away. Pressing button 1 for 3 seconds will arm the system to Home. A second momentary closure of button 1 will disarm the system. Pressing button 2 will open/close a garage door. Pressing button 3 for 3 seconds will cause an audible Panic alarm.

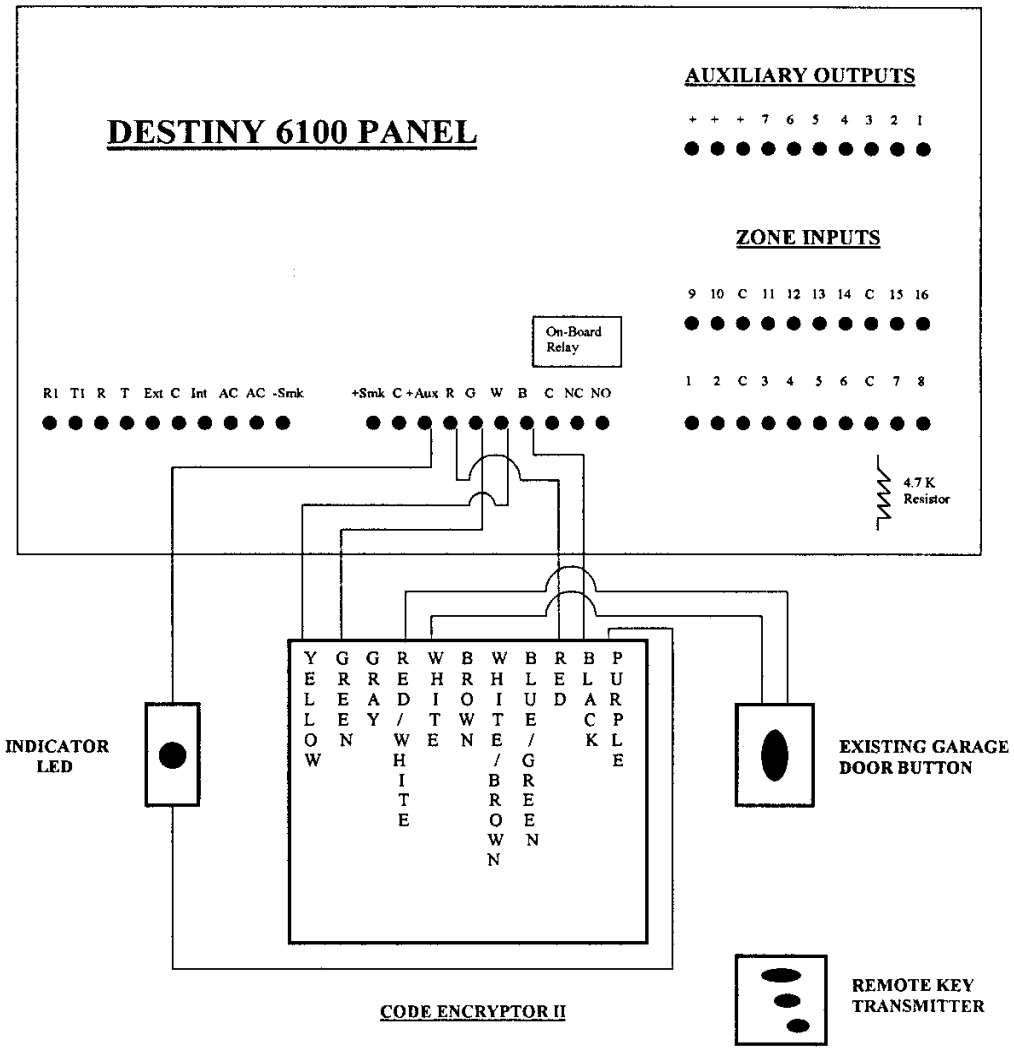
System Sequence of Events

1) Momentary closure of button 1 will arm the system to Away (via the data bus connection). The indicator LED will flash while armed to Away.
2) A 3-second closure of button 1 arms the system to the Home Mode (via data bus connection). The indicator LED will be on solid while armed to Home.
3) A momentary closure of button 1 while the system is armed will disarm the system (via data bus connection). The indicator LED is off when disarmed.
4) Momentary closure of button 2 causes a momentary relay closure from the Code Encryptor unit (using white and red/white wires). This closure is used in parallel to the existing hardwire garage door button to open/close the garage door.
5) A 3-second closure of button 3 causes an audible panic activation via the 4-wire data bus connection (will report as a keypad zone activation).

Required Programming

Location	Value	Function
Follow the Code Encryptor's instruction sheet for setting options and learning remotes and codes.		

Application Diagram



- Application Note -
End User Convenience

- Annunciated Vehicle Detection with Lighted Entry -
Cartell Vehicle Detection Sensor

Objective

To alert the end user with a spoken message when a vehicle enters the driveway and provide lighted entry when dark.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Apex RK36 or RKLCD keypad
- Cartell Vehicle Detection Sensor, C-P2
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01
- X-10 PRO Sundowner Mini Controller, PHC03

This application provides both peace of mind and convenience. The spoken message when there is an approaching vehicle provides the end user with peace of mind while the lighted entry provides convenience.

Sequence of Operation

When a vehicle enters the driveway and passes the detection sensor, the spoken message “Guest in Driveway” will be heard in the house notifying the end user of an approaching vehicle. In addition to the spoken message, the entry flood lights will automatically turn on if it is dark outside. The entry floodlights will turn off after a programmed time period.

Note: This application provides the end user with the ability to activate or de-activate the driveway detection sensor by simply pressing the keypad function key (F2). With a slight programming modification the driveway detection sensor could be active/ inactive based on time of day.

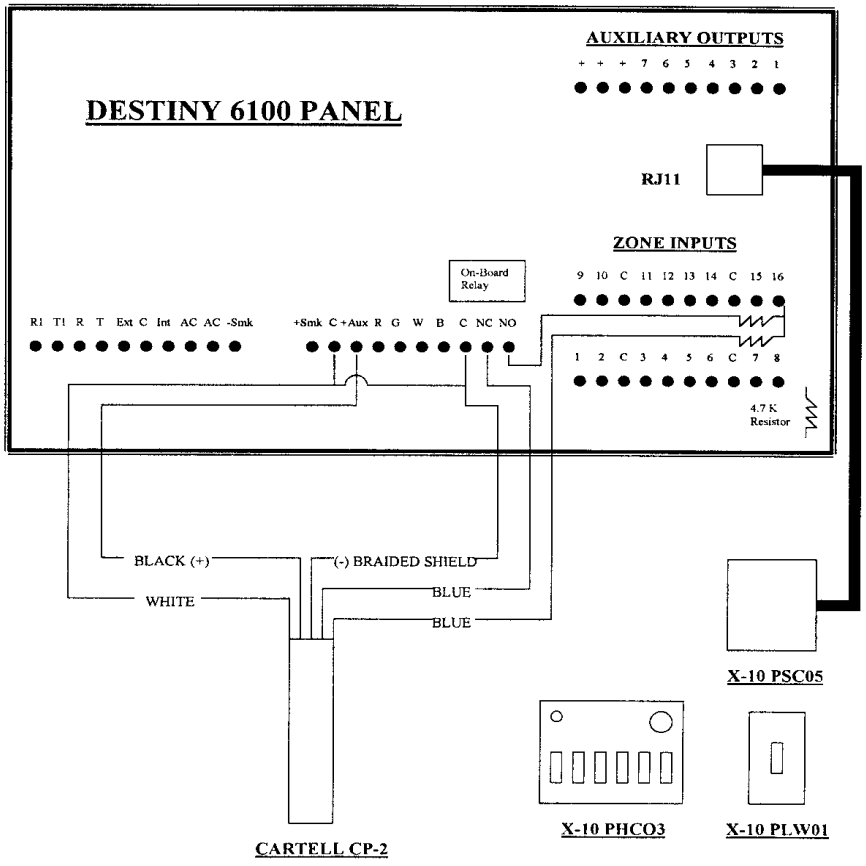
System Sequence of Events

1) When the driveway sensor detects a vehicle, Zone 16 is activated and the zone descriptor will be annunciated through the inside speaker/s (Guest in Driveway).
2) The X-10 entry floodlight (Control Channel 33) is linked to Zone 16. When Zone 16 activates, the control will send an “ON” command to Control Channel 33 only if it is dark outside. Control Channel 33 will remain “ON” until the programmed countdown time is over.
3) At sunset the X-10 Sundowner Mini Controller will send the X-10 output signal “H4 ON” and at sunrise an “H4 OFF”. The panel will use this information as a filter for Control Channel 33.
4) Pressing the keypad function key (F2 for this application) will send an “ON” command via Output Control # 1 to Control Channel 34.
5) Control Channel 34 is programmed to energize the on-board relay (Auxiliary Output 8) which will shunt Zone 16 (the driveway detection sensor) by dropping a 4.7k ohm resistor across the terminal.
6) Pressing the keypad function key again (F2) will send an “OFF” command via Output Control # 1. The on-board relay will de-energize and remove the shunt from Zone 16, thus restoring the driveway detection sensor to an active state.

Required Programming

Location	Value	Function
9940	16	Zone type = 011, Option 1 = 064, Option 2 = 033,
		Hardware input = 000, Input = 015
9940	80	Zone type = 015, Option 1 = 000, Option 2 = 001,
		Hardware input = 020, Input = 01
5570	179	X-10 input 1 = "H4"
5572	022	X-10 signal "H4 ON" = sunset
5573	021	X-10 Signal "H4 OFF" = sunrise
9920	016	083(Guest), 088(In), 198(Driveway)
4865	009	Enable channel 33 for automatic turn-off
4869	010	On units = 10 minutes
4886	176	X-10 output signal H1
4868	008	Filter - disable channel 33 when light
1141	001	ON command sent when zone 16 opens
1142	033	Zone 16 linked to channel 33
4889	001	Enable channel 34
4911	008	Auxiliary output #8
3631	024	F2 key to output control #1
4021	034	Link output control #1 to channel 34
4022	002	Toggle channel 34
9921	34	198(Driveway), 144(Sensor)

Application Diagram


AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
DESTINY 6100 PANEL
RJ11
ZONE INPUTS
On-Board Relay
9 10 C 11 12 13 14 C 15 16
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
BLACK (+)
(-) BRAIDED SHIELD
WHITE
BLUE
BLUE
X-10 PSC05
X-10 PHCO3
X-10 PLW01
CARTELL CP-2

Annunciated
Vehicle Detection
with Lighted Entry
Cartell Vehicle Detection Sensor

- Application Note -
End User Convenience

- Annunciated Vehicle Detection with Lighted Entry -
Sure Action Directional Probe

Objective

To alert the homeowner that someone is entering or leaving the driveway and activate floodlights at dusk when the system is armed to the Home or Night mode.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- Sure Action Probe Processor, SU-212
- Sure Action Directional Probe, SU-P8000
- Sure Action 12VDC Photo Cell, SU-ON/OFF
- X-10 PRO Power Line Interface Module, PSC05
- X-10 PRO Incandescent Wall Switch Module, PLW01

Sequence of Operation

During the day when a guest enters the driveway, the Destiny 6100 will speak, “Guest in Driveway” and when someone leaves the driveway the Destiny 6100 will speak, “Goodbye”. When the system is armed to Home or Night mode after dark, the Destiny 6100 will speak “Guest in Driveway” and turn on the floodlight for three minutes. Upon exit, the Destiny 6100 will speak “Goodbye” and reactivate the floodlights for another three minutes.

Note: Greetings and floodlight “ON” time can be customized.

System Sequence of Events

1) Two auxiliary zones will be programmed; one for entry and one for exit, which will be activated by the Sure Action Directional Probes.
2) One Control Channel will be programmed with the following options; time out in three minutes, disable at sunrise, disable when armed to Home, Away and disarm.
3) Control Channel 1 is then linked to both auxiliary zones.
4) The SU-ON/OFF Photo Cell detects dusk and dawn which trips Zone 3 and alerts the panel of sunset.

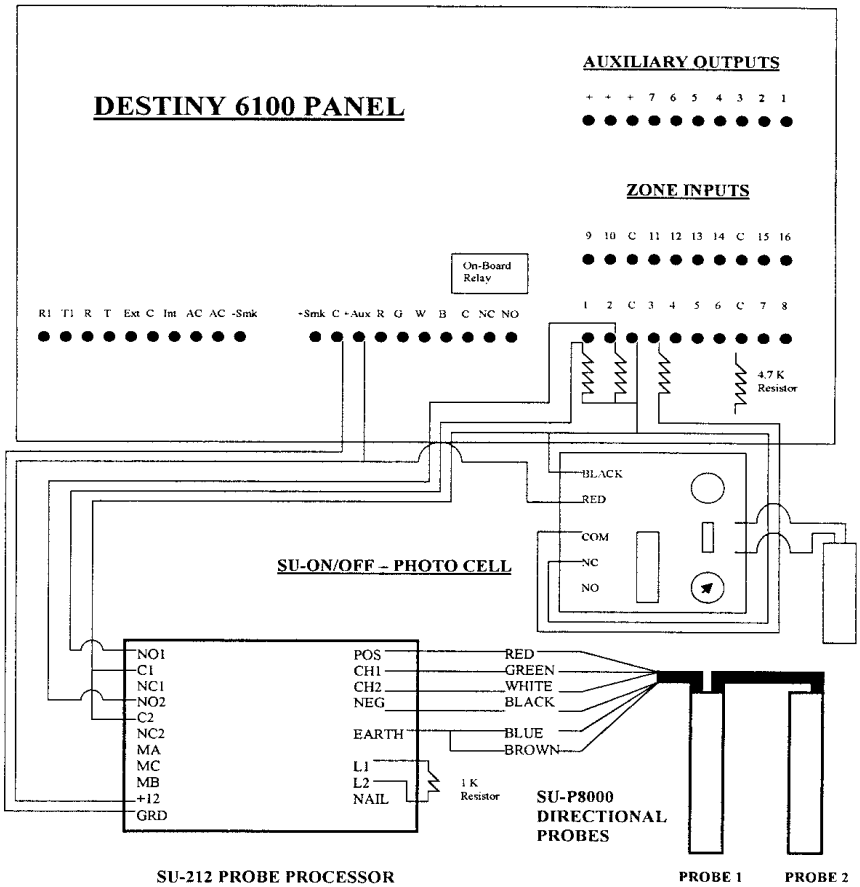
Note: At default zone open equals dusk (sunset) and can only be changed from the upload/download software.

5) When the system is armed to Home or Night after sunset and driveway activity is detected, the Control Channel then activates the flood light for three minutes.

Required Programming

Location	Value	Function
9940	01	Zone type = 011, Option 1 = 064, Option 2 = 001,
		Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 064, Option 2 = 001,
		Hardware device = 000, Input = 02
9940	03	Zone type = 016, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 03
4097	013	Enable channel one, countdown in minutes, restart timer and auto turn off
4100	200	Disable channel one when disarmed, armed to Away, and sunrise
4101	003	Set ON time for 3 minutes
4118	096	Set house code and unit number to A-1
0901	001	Set option for zone 1 open to send an ON command
0902	001	Link zone 1 to control channel 1
0917	001	Set option for zone 2 open to send an ON command
0918	001	Link zone 2 to control channel 1

Application Diagram



Annunciated Vehicle Detection with Lighted Entry Sure Action Directional Probe

- Application Note -
Miscellaneous

- Arm to Away End of Exit Trigger -

Objective

Provide an output relay that will activate at the end of the arm to Away exit delay.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater
- System Sensor Relay, A77-716B

This application can be used to provide an audible and / or visual indication when the exit delay has expired and the control is armed.

Sequence of Operation

After arming to Away, the exit countdown will begin. When the exit delay expires a relay output will be given. The relay output will restore when the control is disarmed.

System Sequence of Events

1) Arming to Away activates Control Channel 3 which triggers Chain Group 1 to first energize the on-board relay (Auxiliary Output 8) and then Auxiliary Output 1. The ground signal from Auxiliary Output 1 is now available at the normally closed (NC) contacts of the on-board relay.

2) This signal will pass through to Zone 1 when the on-board relay is returned to its normally closed position after the turn-off delay period (programmed same as the exit delay time).

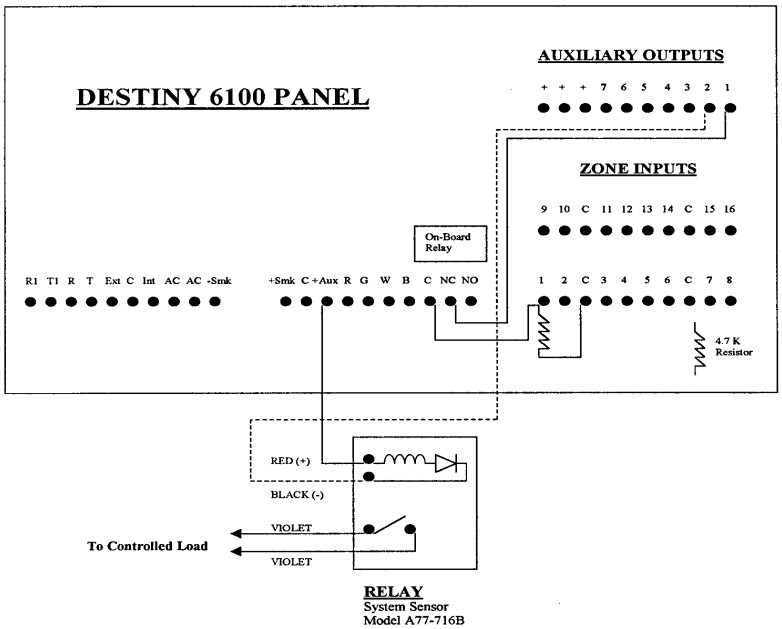
3) Zone 1 is linked to Control Channel 5 so when it is tripped Auxiliary Output 2 will pull to ground and energize the output relay.

4) When the system is disarmed Control Channel 4 will trigger Chain Group 2 to first deenergize Auxiliary Output 1 and then the on-board relay. This will deenergize the output relay returning it to its normal state.

Required Programming

Location	Value	Function
4097	011	Enable control channel 1 with automatic turn-off
4101	030	On units (seconds)
4119	008	Auxiliary output 8
4121	001	Enable control channel 2
4143	001	Auxiliary output 1
4145	001	Enable control channel 3
4147	001	Activate chain channel
4166	001	Chain channel 1
4169	001	Enable control channel 4
4171	001	Activate chain channel
4190	002	Chain channel 2
4193	001	Enable control channel 5
4215	002	Auxiliary output 2
5441	001	Channel activation 1, chain channel 1
5442	002	Channel activation 2, chain channel 1
5457	002	Channel activation 1, chain channel 2
5458	001	Channel activation 2, chain channel 2
0194	003	System trigger, arm to away
4064	002	System trigger option, activate=on
0196	004	System trigger, disarm
4066	001	System trigger option, activate=off
0901	009	Zone – control channel link option (open=on, close=off)
0902	005	Zone – control channel link channel (zone 1, channel 5)
9940	01	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware input = 000, Input = 01

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
1 2 C 3 4 5 6 C 7 8
4.7 K Resistor
RED (+)
BLACK (-)
VIOLET
To Controlled Load
VIOLET
RELAY
System Sensor
Model A77-716B

- Delayed Extended Monitor -

Objective

Provide extended monitor for a zone if it remains open after a specified time delay period.

Equipment List

- Apex Destiny 6100 control panel, rev. 8.05 or greater

This application may be used in a residential or light commercial installation to give an audible notification when a zone (door, window, cabinet, pool gate, display case) is opened and not properly closed or left open.

Sequence of Operation

When Zone 1 opens and remains open for a specified time delay period, the system will annunciate the zone opening for the programmed extended monitoring time (default is 30 seconds). If Zone 1 opens and then closes before the specified time delay period has expired, there will be no extended monitoring.

System Sequence of Events

1) Zone 1 opens sending an “ON” command to Control Channel 1.

2) Control Channel 1 (Chain Channel 1) first energizes the on-board relay (Auxiliary Output 8) and then Auxiliary Output 1. The ground signal from Auxiliary Output 1 is now available at the normally closed (NC) terminal of the on-board relay.

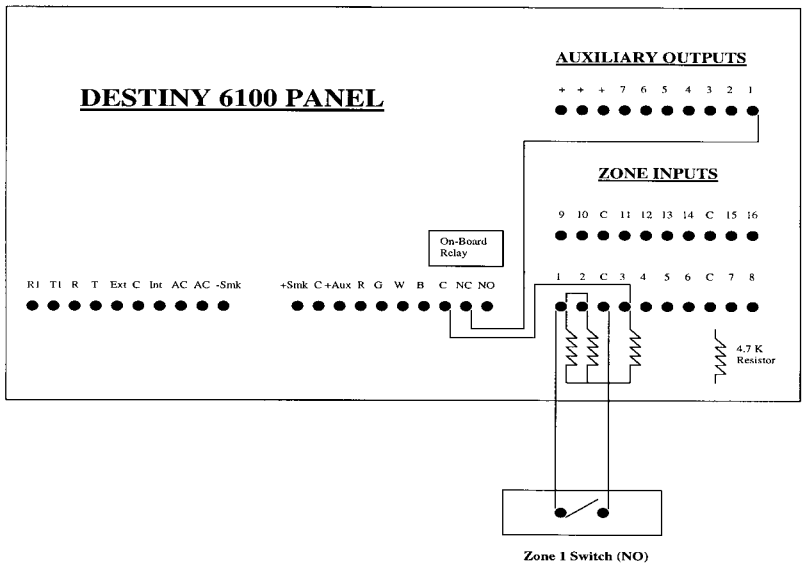
3) The on-board relay will return to its normally closed position after the automatic turn-off time period and allow the ground signal from Auxiliary Output 1 to activate Zone 3. Zone 3 is programmed as a Day zone that will always be an extended monitoring zone when the system is disarmed.

4) If Zone 1 opens and then closes before the automatic turn-off time period has expired, Zone 2 closes sending an “OFF” command to Control Channel 2 (Chain Channel 2) which first deenergzes Auxiliary Output 1 and then the on-board relay. This will prevent the Auxiliary Output 1 ground signal from activating Zone 3.

Required Programming

Location	Value	Function
9940	01	Zone type = 001, Option 1 = 080, Option 2 = 001,
		Hardware device = 000, Input = 01
9940	02	Zone type = 011, Option 1 = 000, Option 2 = 001,
		Hardware device = 000, Input = 02
9940	03	Zone type = 013, Option 1 = 064, Option 2 = 001,
		Hardware device = 000, Input = 03
9920	001	077(Front), 060(Door)
9920	003	077(Front), 060(Door) - same as zone 1
4097	001	Enable control channel 1
4099	001	Activate chain channel
4118	001	Chain channel 1
4121	001	Enable control channel 2
4123	001	Activate chain channel
4142	002	Chain channel 2
4145	001	Enable control channel 3
4167	001	Auxiliary output 1
4148	096	Enable Away, Home, Night filter
4169	011	Enable control channel 4
4173	030	On units (seconds)
4191	008	Auxiliary output 8
5441	004	Channel activation 1, chain channel 1
5442	003	Channel activation 2, chain channel 1
5457	003	Channel activation 1, chain channel 2
5458	004	Channel activation 2, chain channel 2
0901	001	Zone - control channel link option (open = on)
0902	001	Zone - control channel link channel (zone 1, channel 1)
0917	008	Zone - control channel link option (close = off)
0918	002	Zone - control channel link channel (zone 2, channel 2)

Application Diagram


DESTINY 6100 PANEL
AUXILIARY OUTPUTS
+ + + 7 6 5 4 3 2 1
ZONE INPUTS
9 10 C 11 12 13 14 C 15 16
On-Board Relay
1 2 C 3 4 5 6 C 7 8
R1 T1 R T Ext C Int AC AC -Smk
+Smk C +Aux R G W B C NC NO
4.7 K Resistor
Zone 1 Switch (NO)

Application Directory

- Product Sources -

Apex Division of Pittway Corporation

Available at ADI

www.ademco.com/apex

- Technical Support / Applications Group . . . . . 1-800-272-7937 Option 1
  Mark_Haas@Pittway.com

- Sales Support . . . . . 1-800-272-7937 Ext. 3003
  Chris_Williams@Pittway.com

- Customer Service, Louisville 1-800-573-0154

Street Smart Security

Available at ADI

www.streetsmartsecurity.com

- Main Number 1-800-908-4737
  Scott_Matlock@ademco.com

System Sensor, A Division of Pittway

Available at ADI

www.systemsensor.com

- Technical Support 1-800-736-7672

ADI

www.adilink.com

Call 1-800-233-6261 to locate an ADI center near you.

- Product Sources -

(continued)

Enerzone Systems Corp. ***Available at ADI***

www.Enerzone.com

- Main Number 1-888-782-8638

Enerzone@airmail.net

IEI = International Electronics, Inc. ***Available at ADI***

www.IEIB.com

- Technical Support 1-800-343-9502

ToddH@IEIB.com

Preferred Technologies Group ***Available at ADI***

Cartell Products

- Main Number 1-800-223-4743

Sure Action Incorporated ***Available at ADI***

www.sureaction.com

- Main Number 1-800-648-4301

tech@sureaction.com

X-10 PRO ***Available at ADI***

www.X10PRO.com

- Technical Support 1-800-832-4003

X10PROTEC@AOL.COM

W.W. Grainger, Inc. ***Available at Grainger***

www.grainger.com

- Parts 1-800-323-0620

ADI

www.adilink.com

Call 1-800-233-6261 to locate an ADI center near you.